

Figure 1a

	MS-GPC- 8-27-7	MS-GPC- 8-27-10	MS-GPC- 8-6-13	MS-GPC- 8-27-41	MS-GPC- 8-6-47	MS-GPC- 8-10-57	MS-GPC- 8-6-27	MS-GPC- 8	MS-GPC- 8-6
Plastic	-0.004	-0.020	-0.022	-0.025	-0.001	0.005	0.007	-0.022	-0.018
BSA	-0.003	-0.019	-0.021	-0.022	0.008	0.003	0.003	-0.016	-0.019
Testosterone -BSA	-0.005	-0.010	-0.012	-0.007	0.011	0.003	0.002	-0.009	-0.012
Lysozyme human	-0.005	-0.079	-0.079	-0.073	0.013	0.014	0.006	-0.081	-0.072
Apotransferrin	-0.009	-0.016	-0.018	-0.018	-0.005	-0.008	-0.004	-0.014	-0.016
MHCII (DRA*0101/ DRB1*0401)	1.549	1.493	1.467	1.525	1.400	1.256	1.297	1.058	1.306

Figure 1c

Target Proteins	scFv										IgG		
	17	2E	45	5C	73	8A	A1	B8	E6	FD	159	170	1D09C3 1C7277 305D3
DR4Dw4 Purified	+	+	+	+	+	+	+	+	+	+	+	+	+
Chimeric DR-IE purified	+	+	+	+	+	+	+	+	+	+	+	+	+
Lysozyme	- ^a	-	-	-	-	-	-	-	-	-	-	-	-
Transferrin	-	-	-	-	-	-	-	-	-	-	-	-	-
BSA	-	-	-	-	-	-	-	-	-	-	-	-	-
Human gamma globulin	-	-	-	-	-	-	-	-	-	-	-	-	-

a. In Elisa, OD (at 370 nm - background): > 1.5

b. In Elisa, OD (at 370 nm - background): < 0.5

Figure 1b

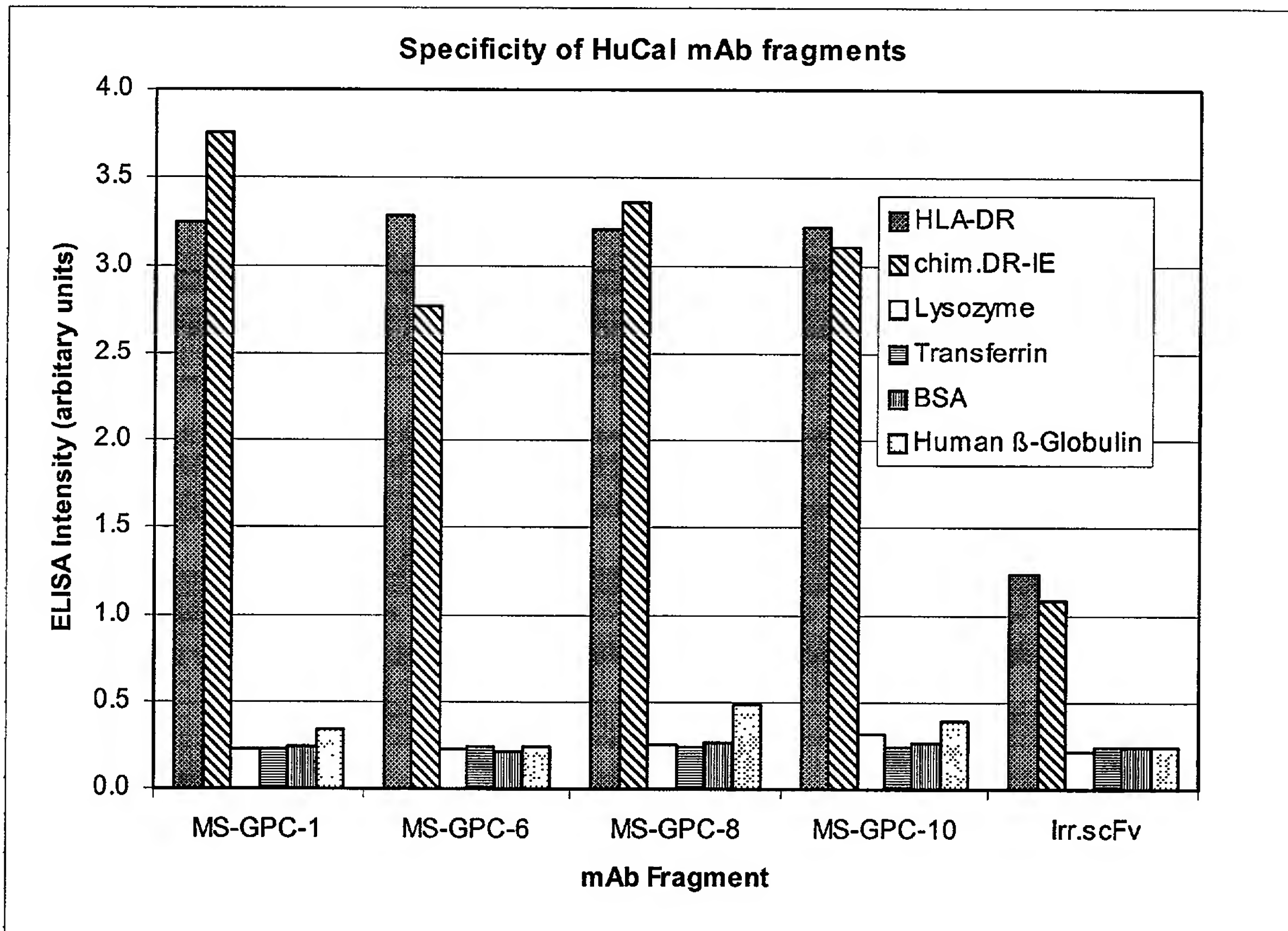


Figure 3

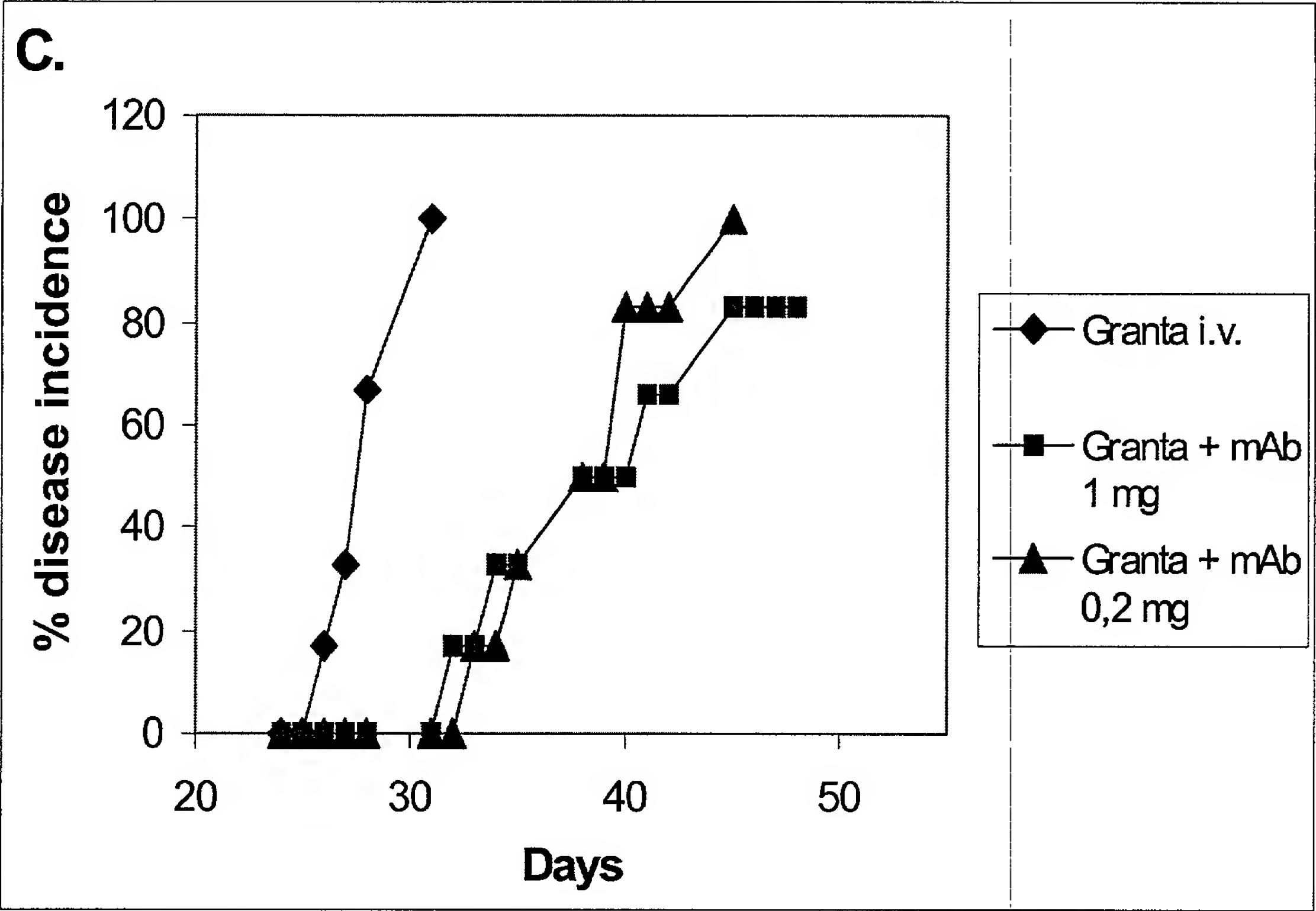


Figure 4

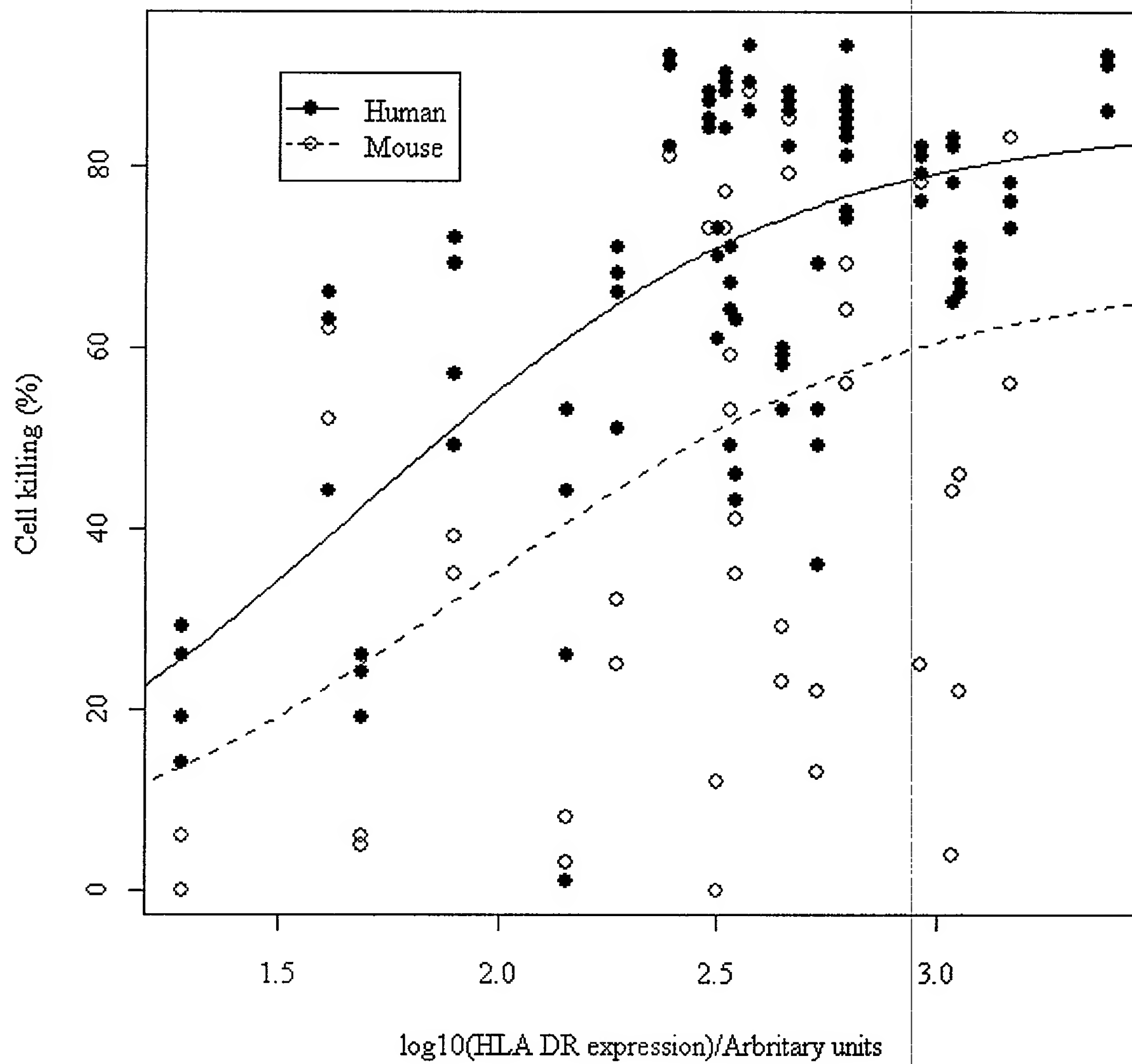


Figure 5

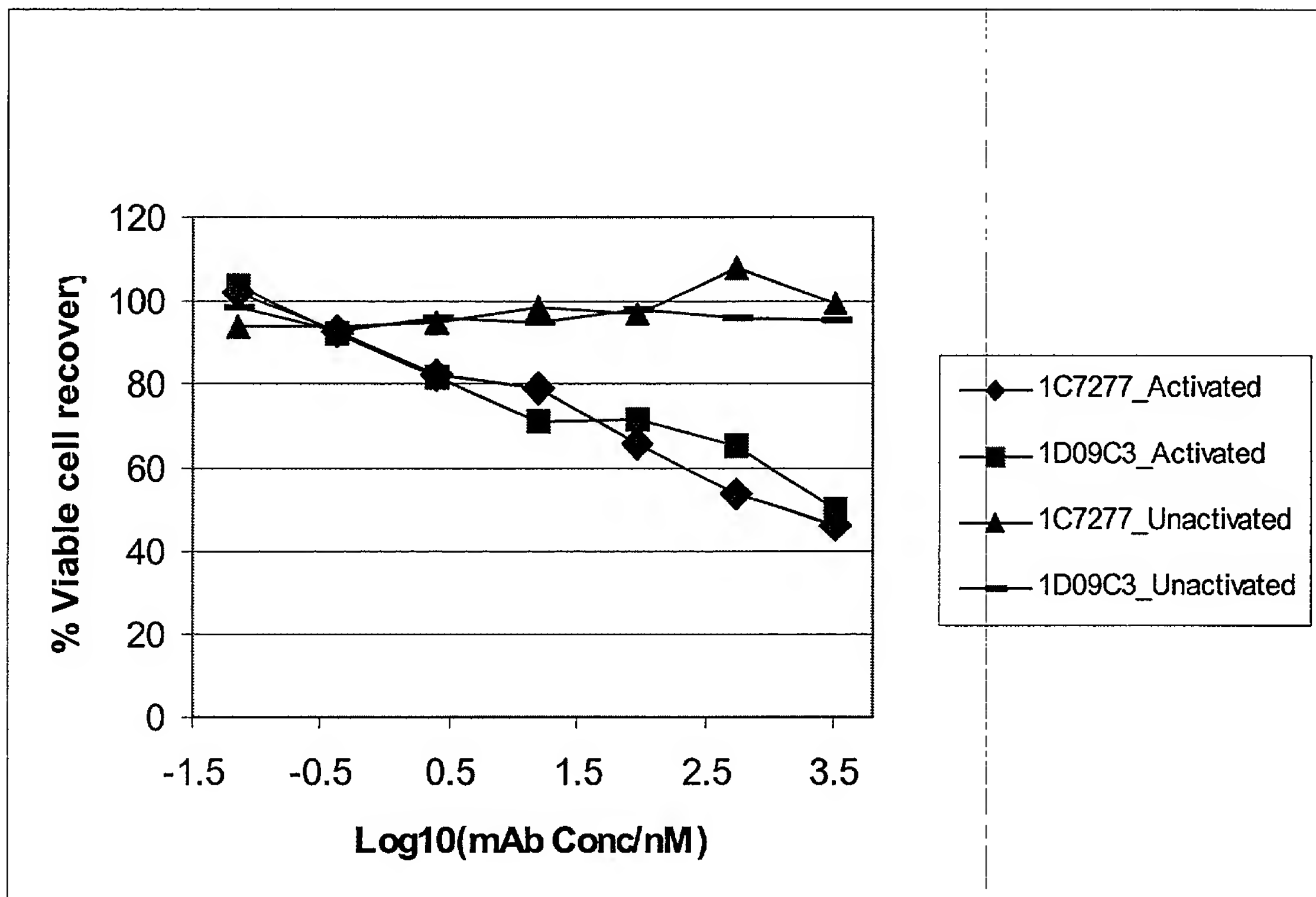


Figure 6a

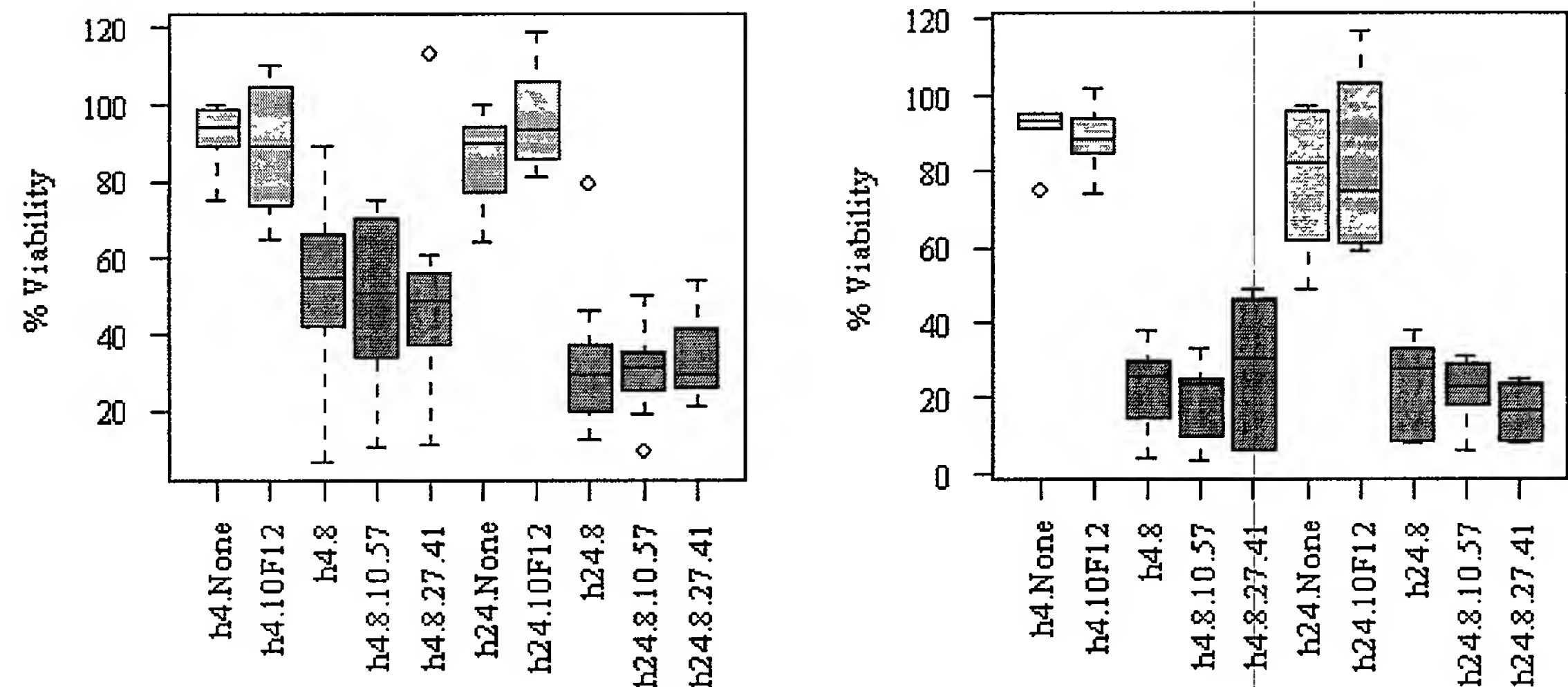


Figure 6b

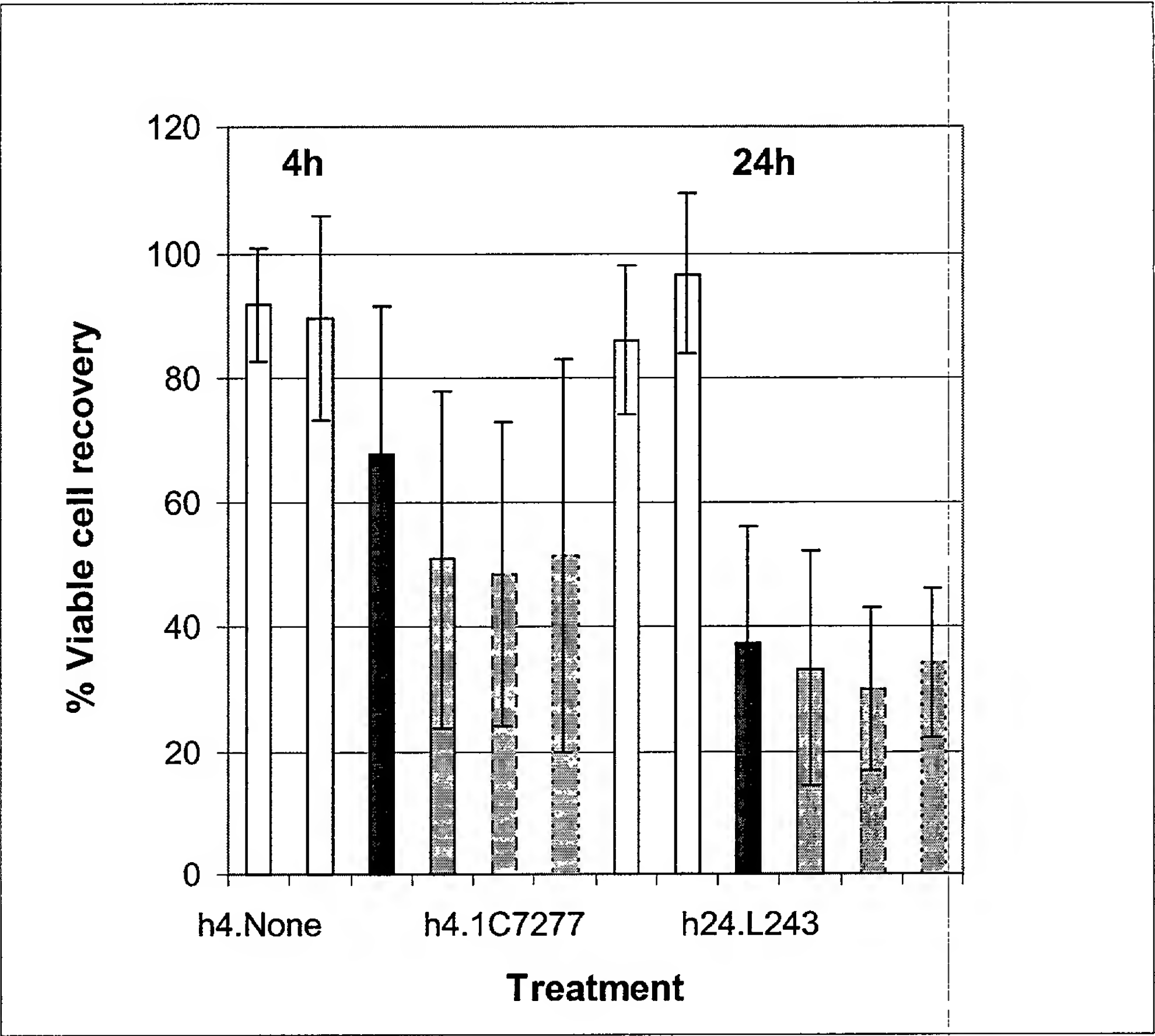


Figure 6c

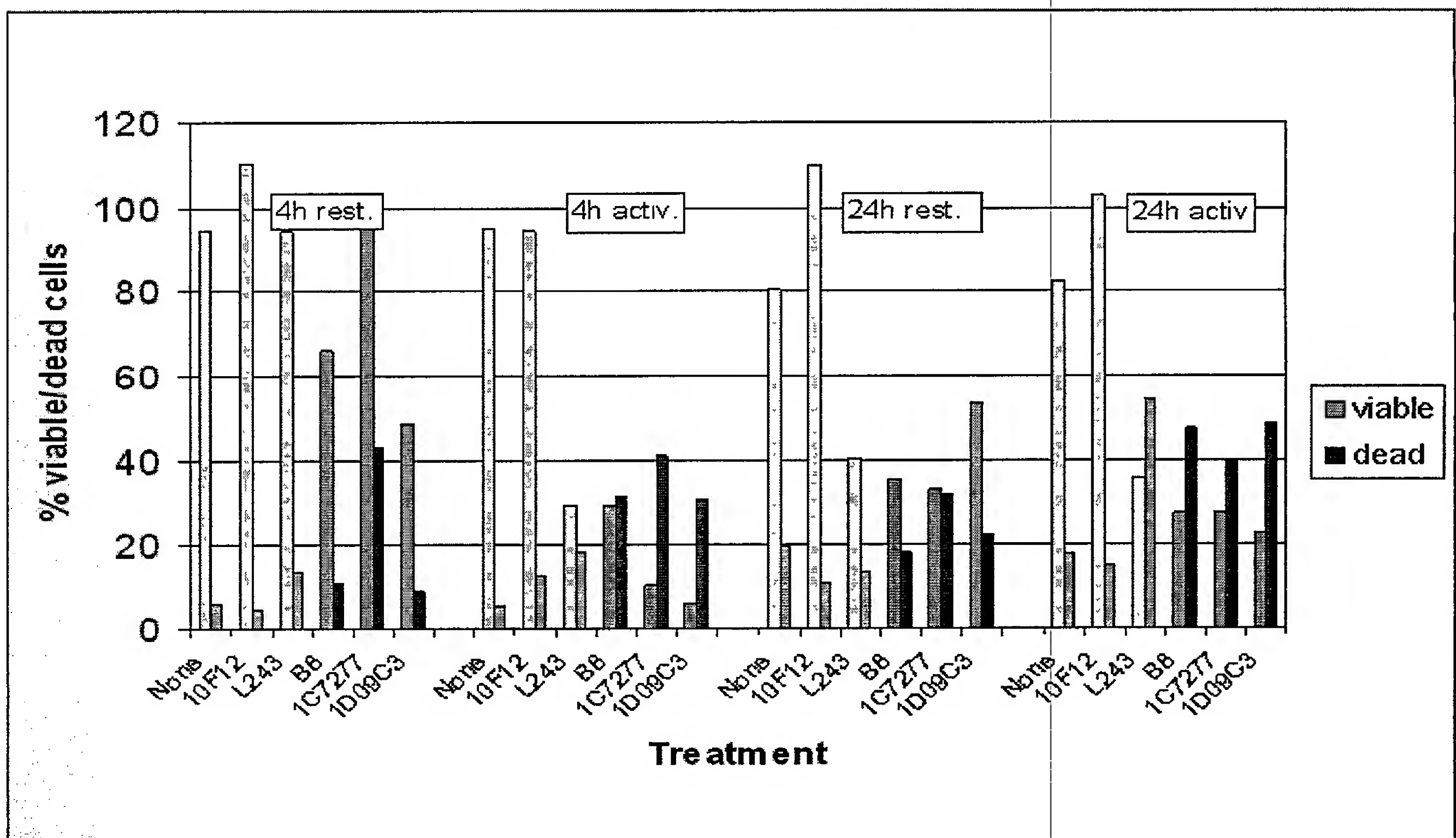


Figure 7a

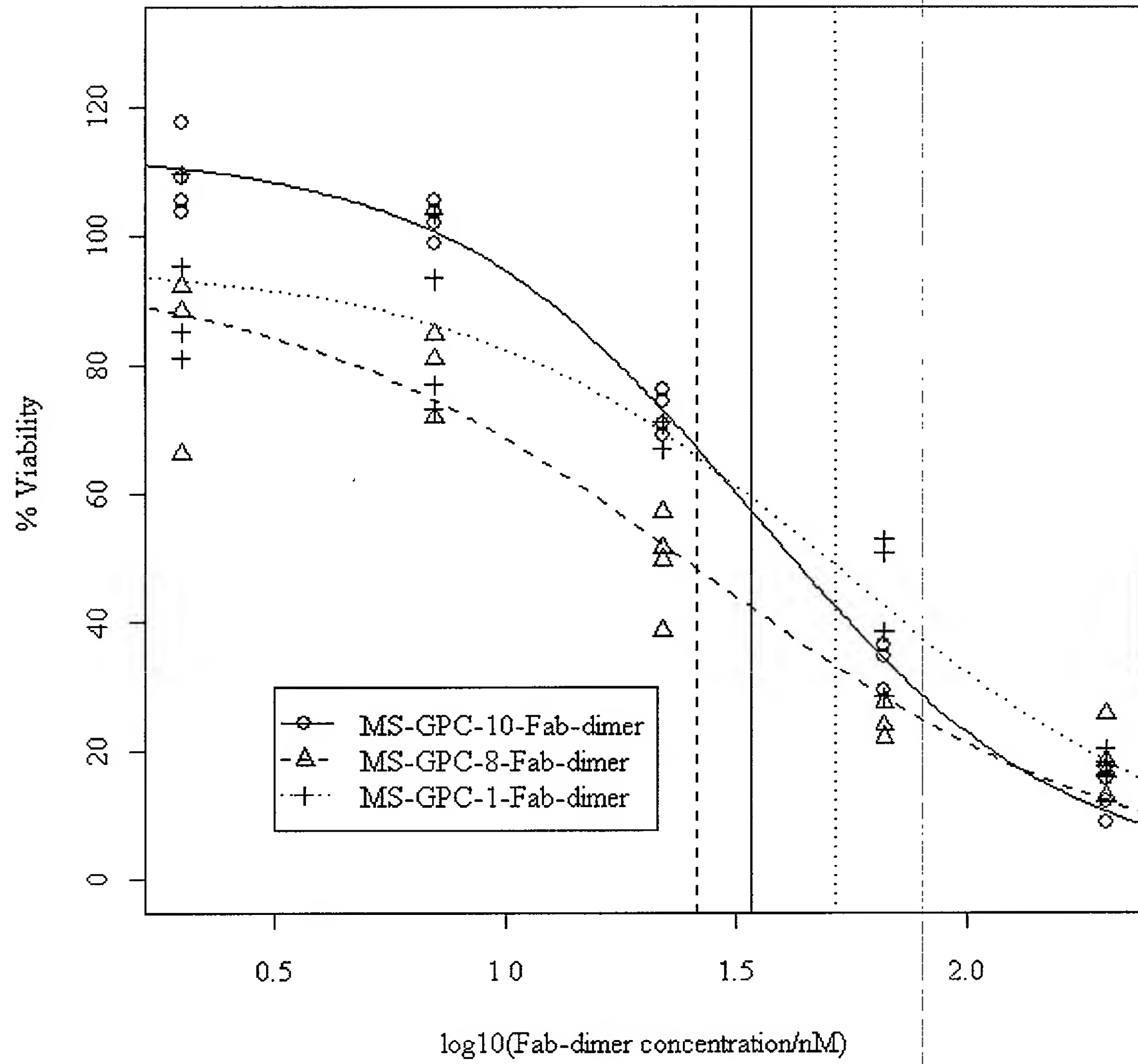


Figure 7b

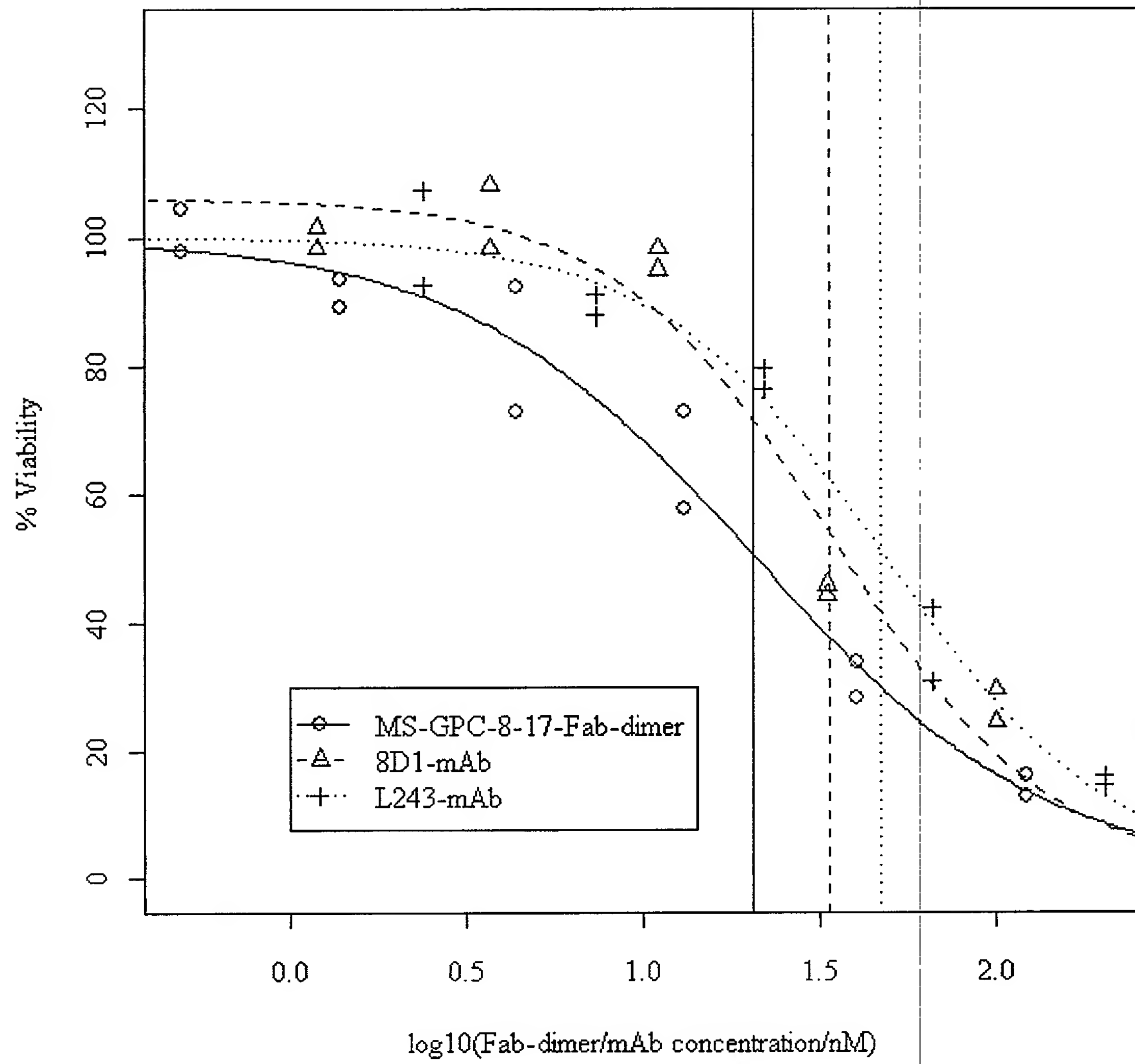


Figure 7c

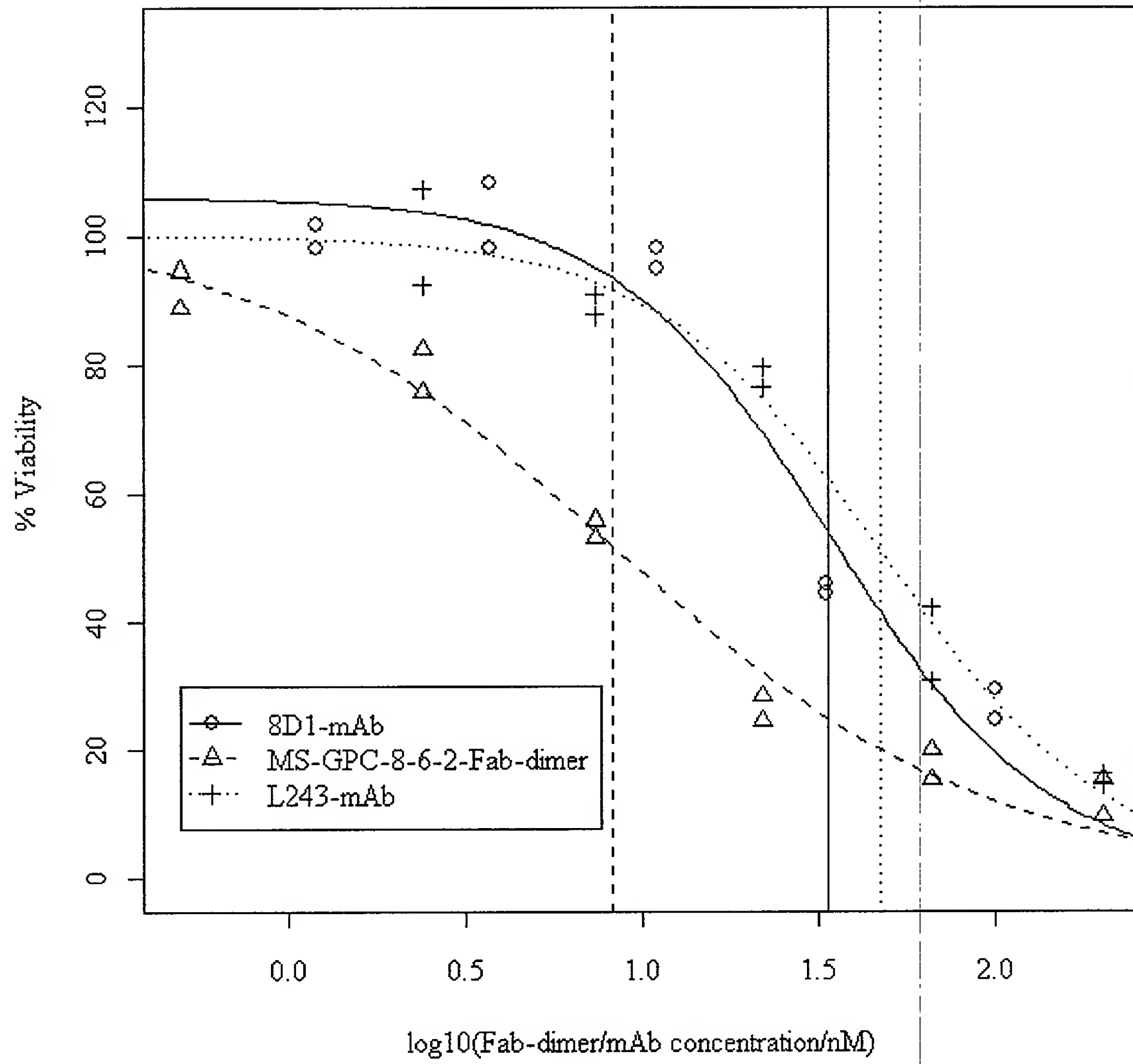


Figure 7d

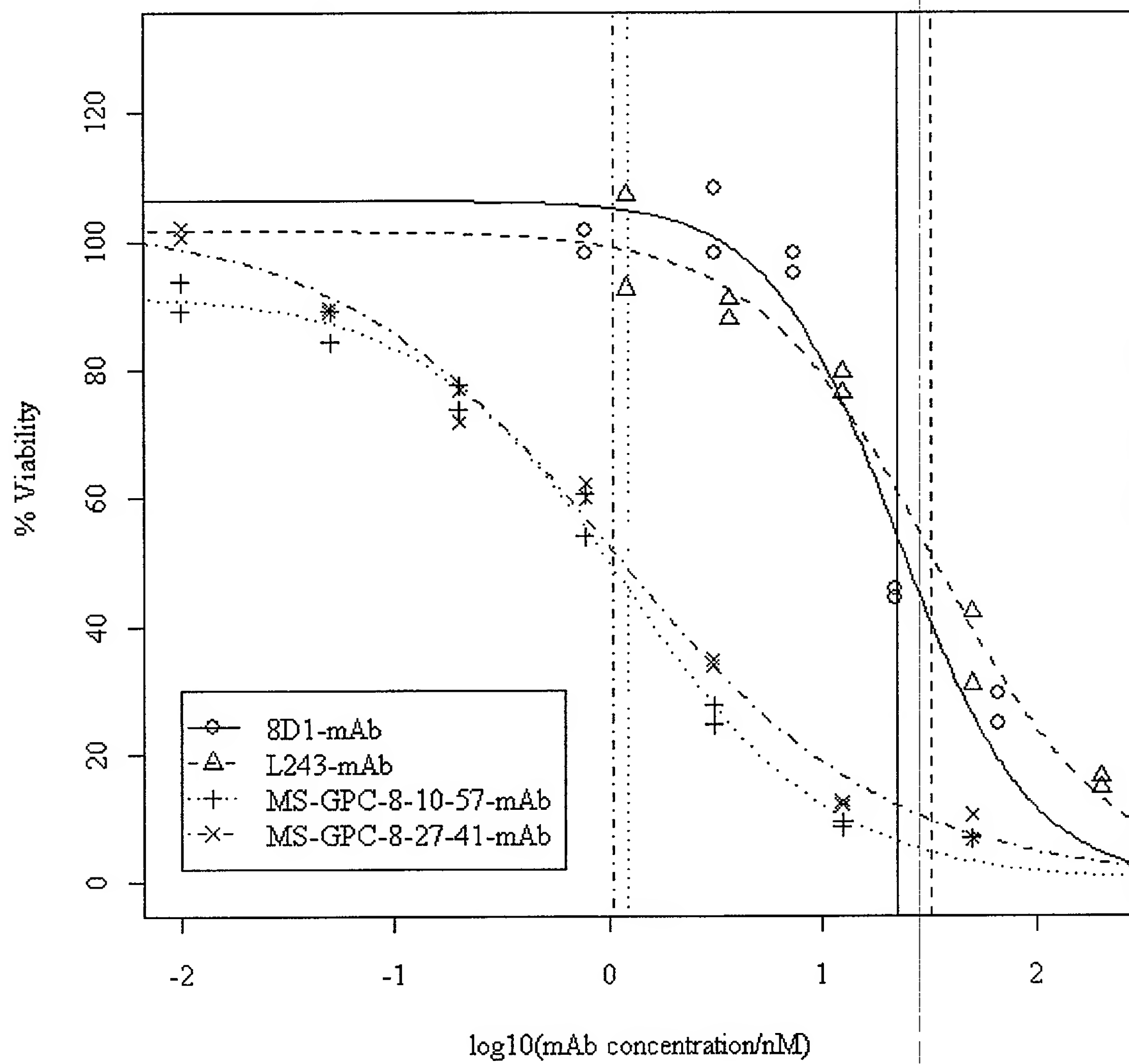


Figure 8a

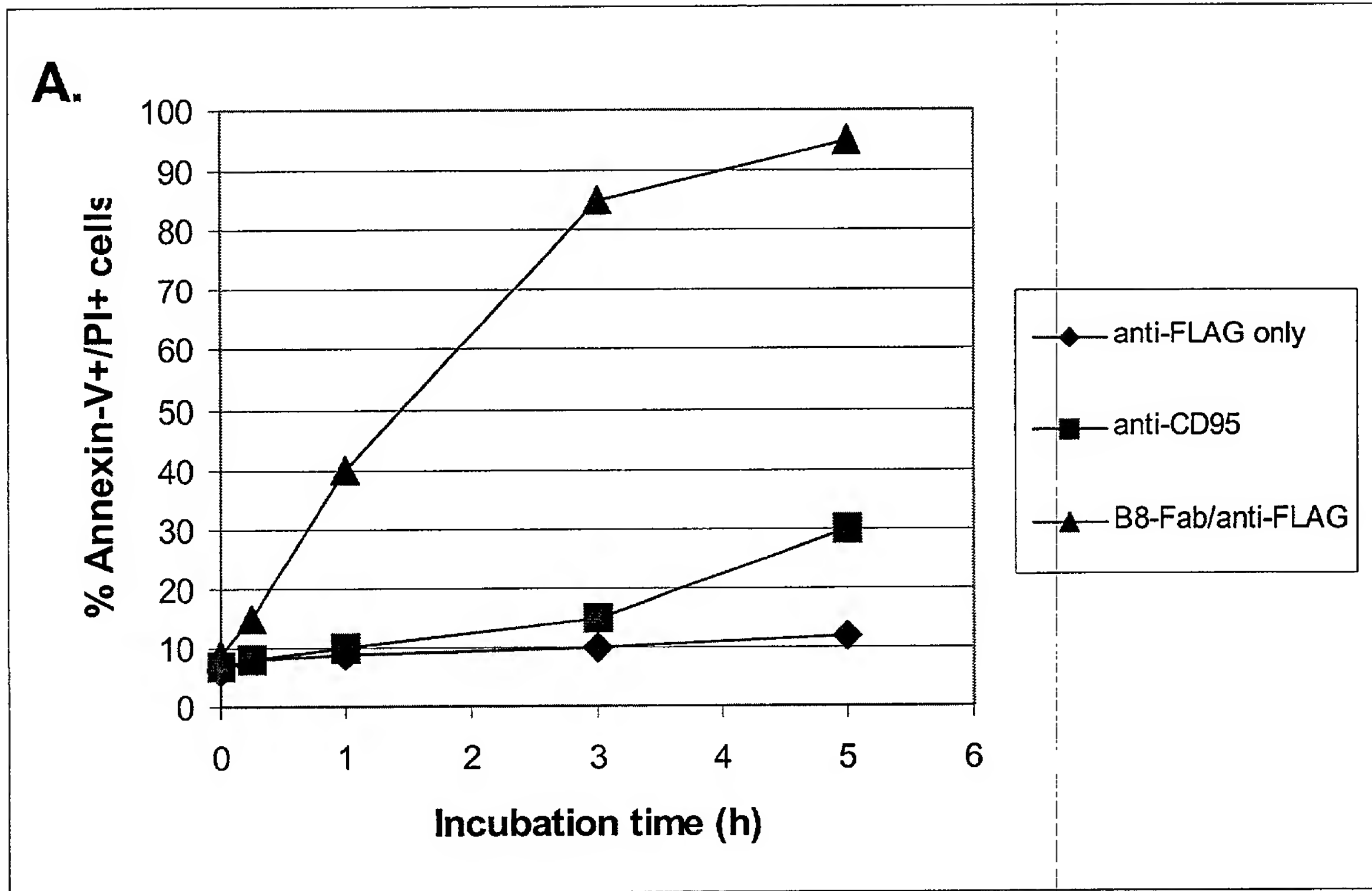


Figure 8b

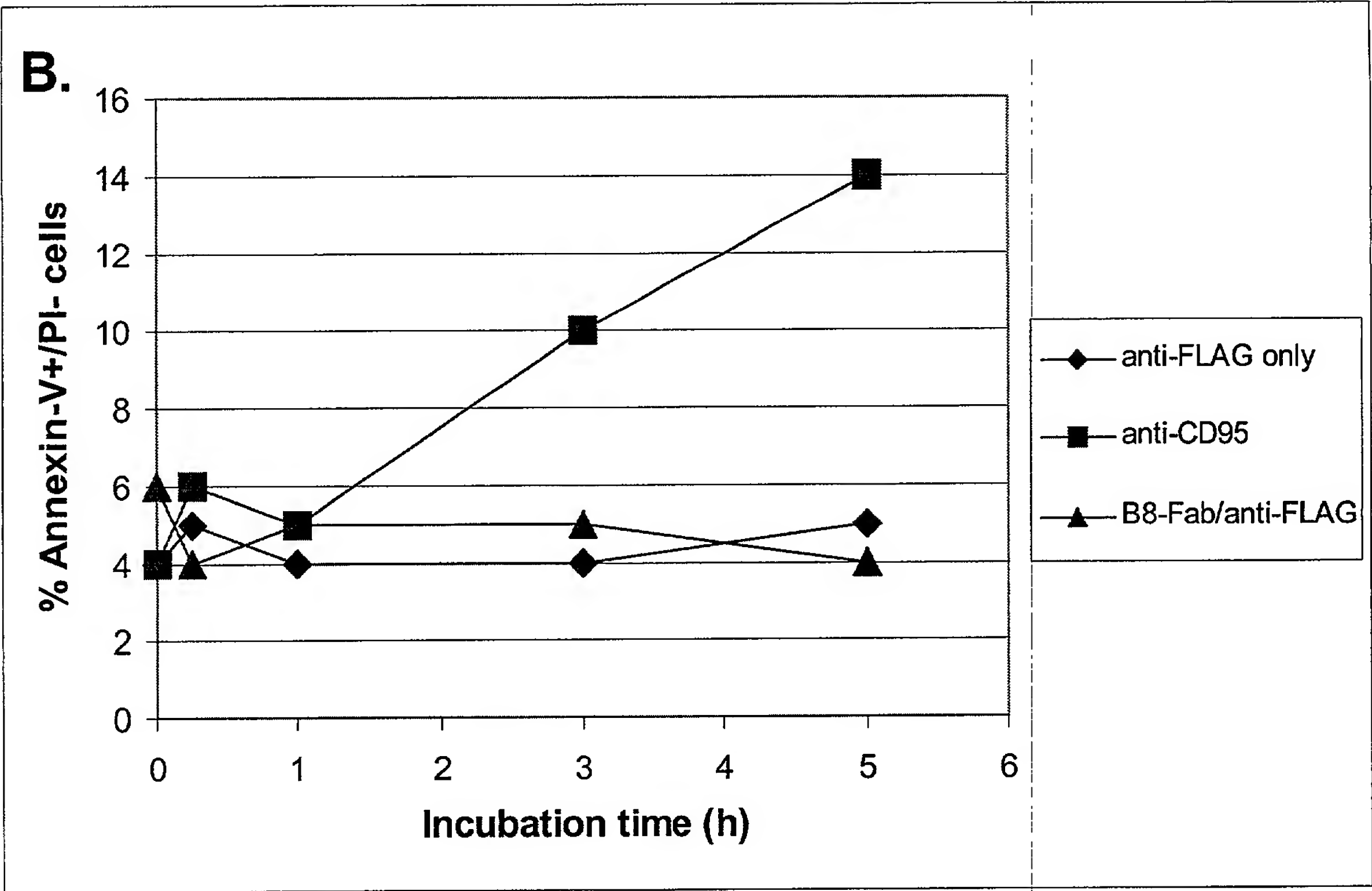


Figure 8c

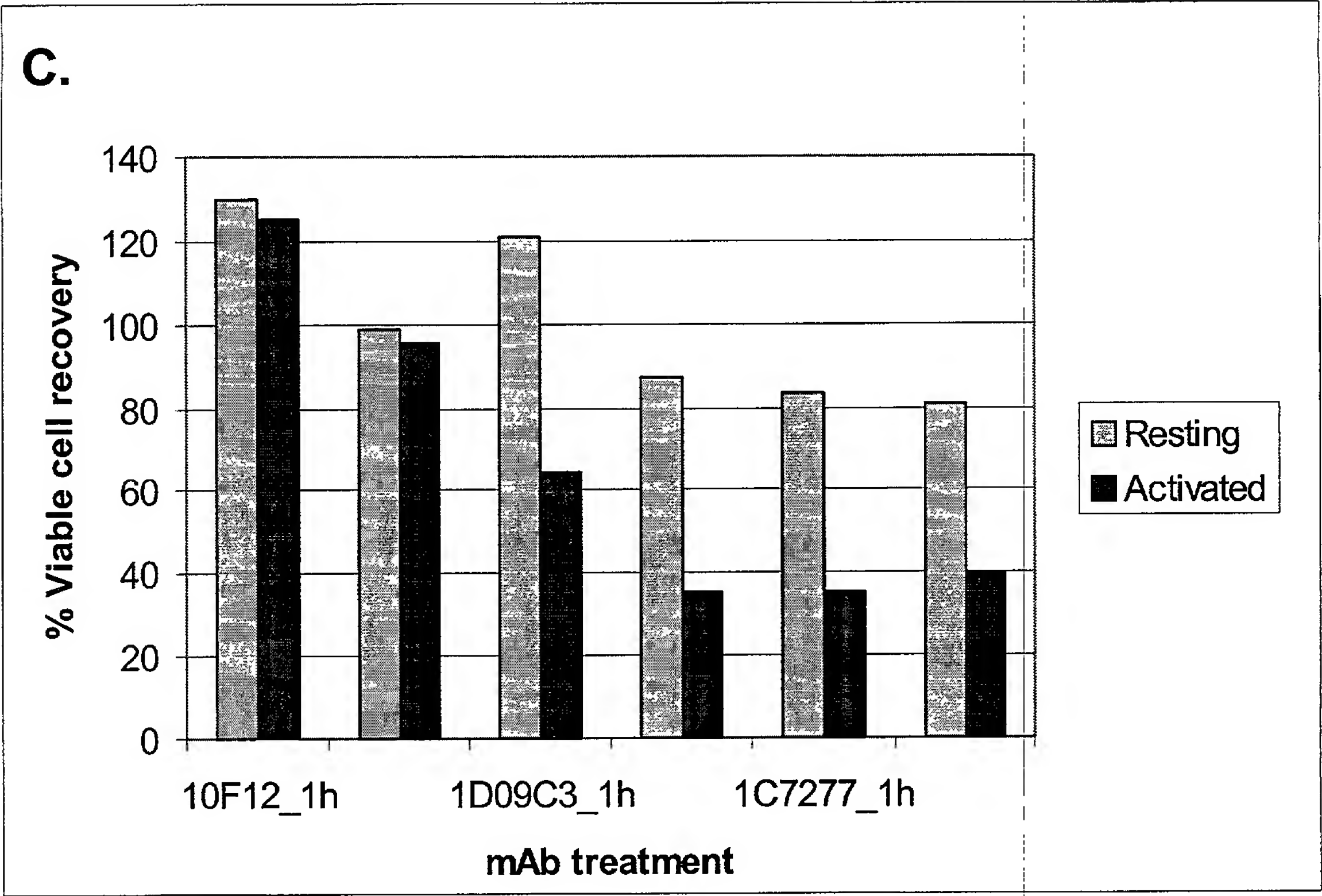


Figure 9a

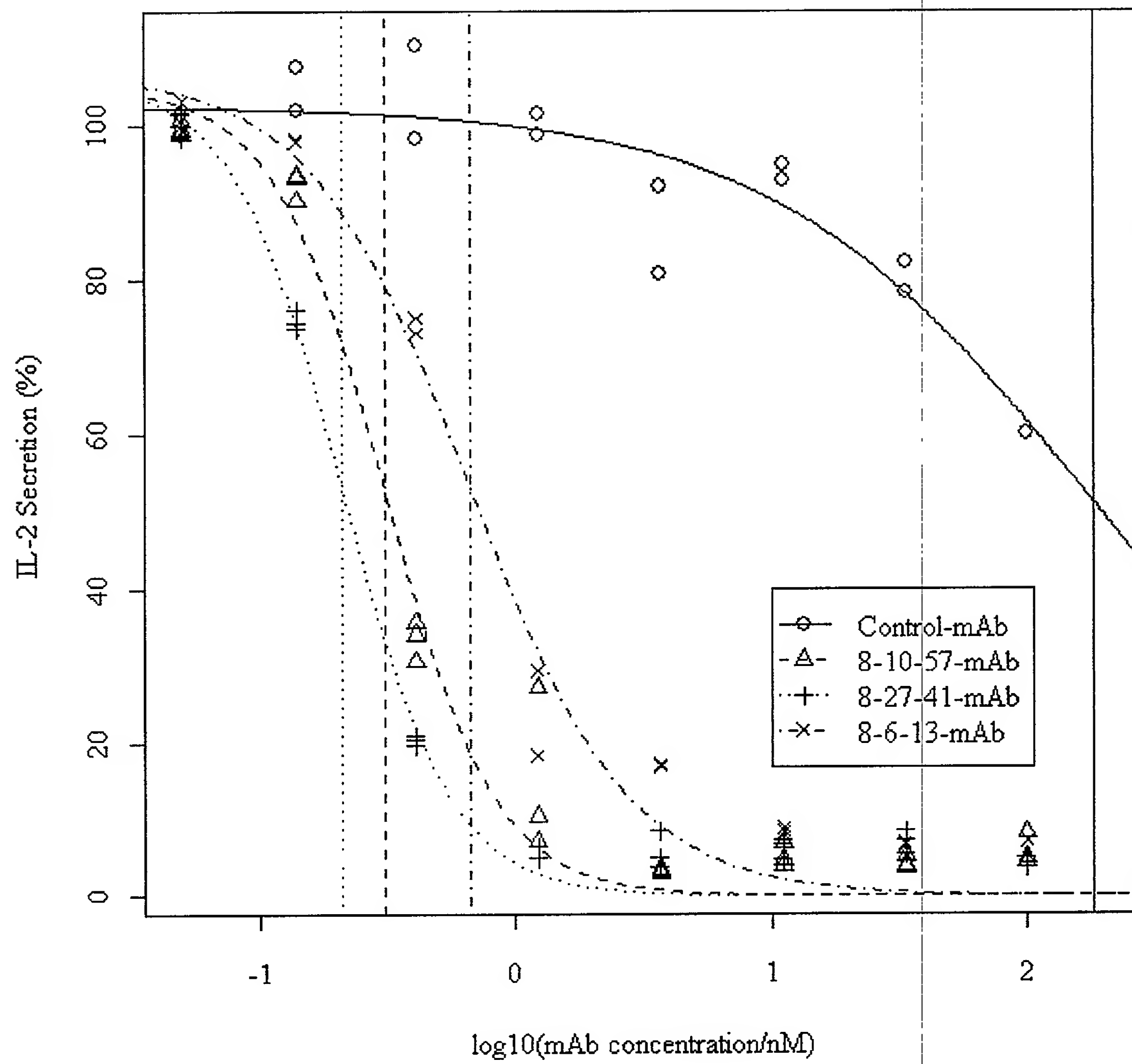


Figure 9b

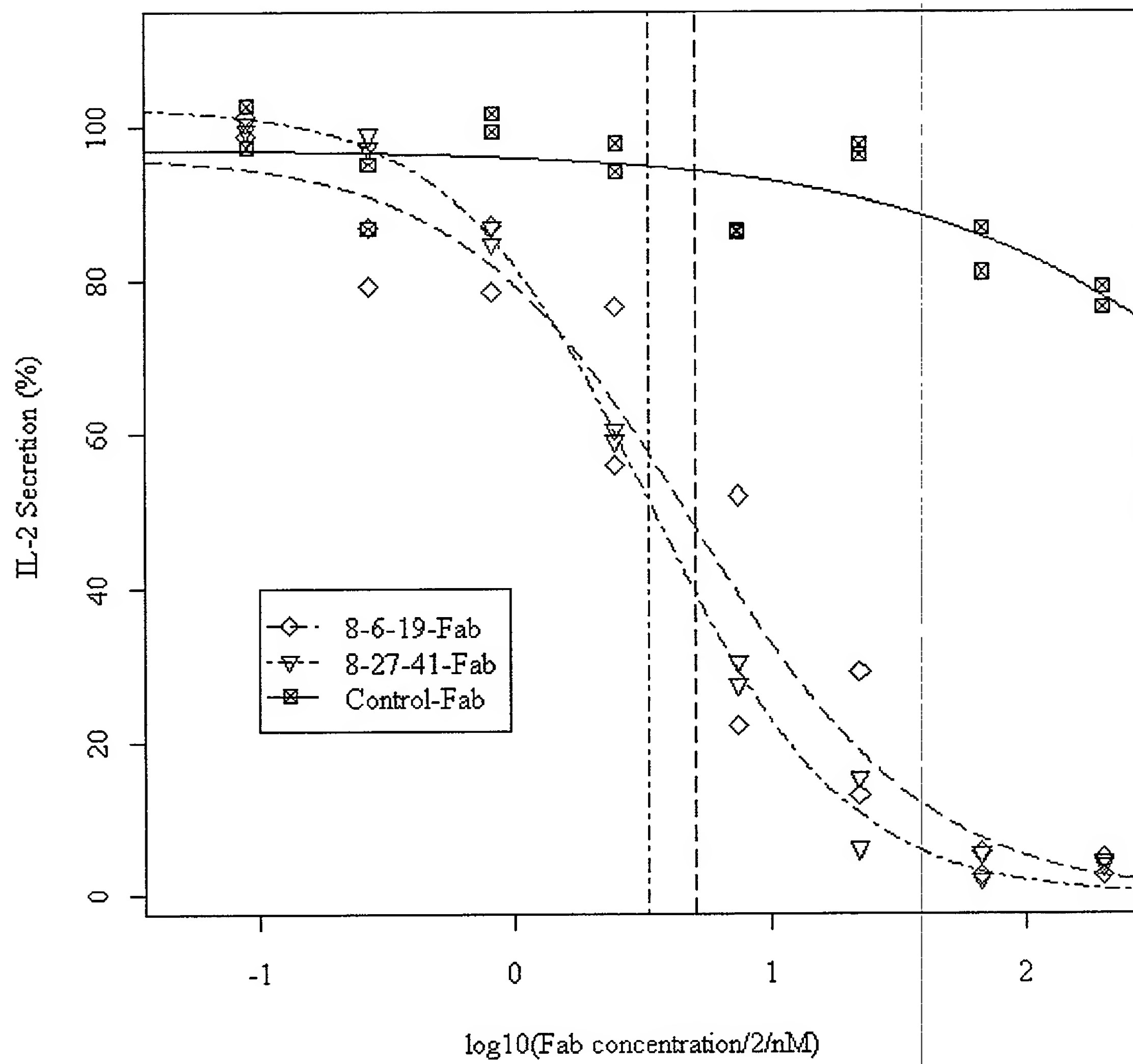


Figure 9c

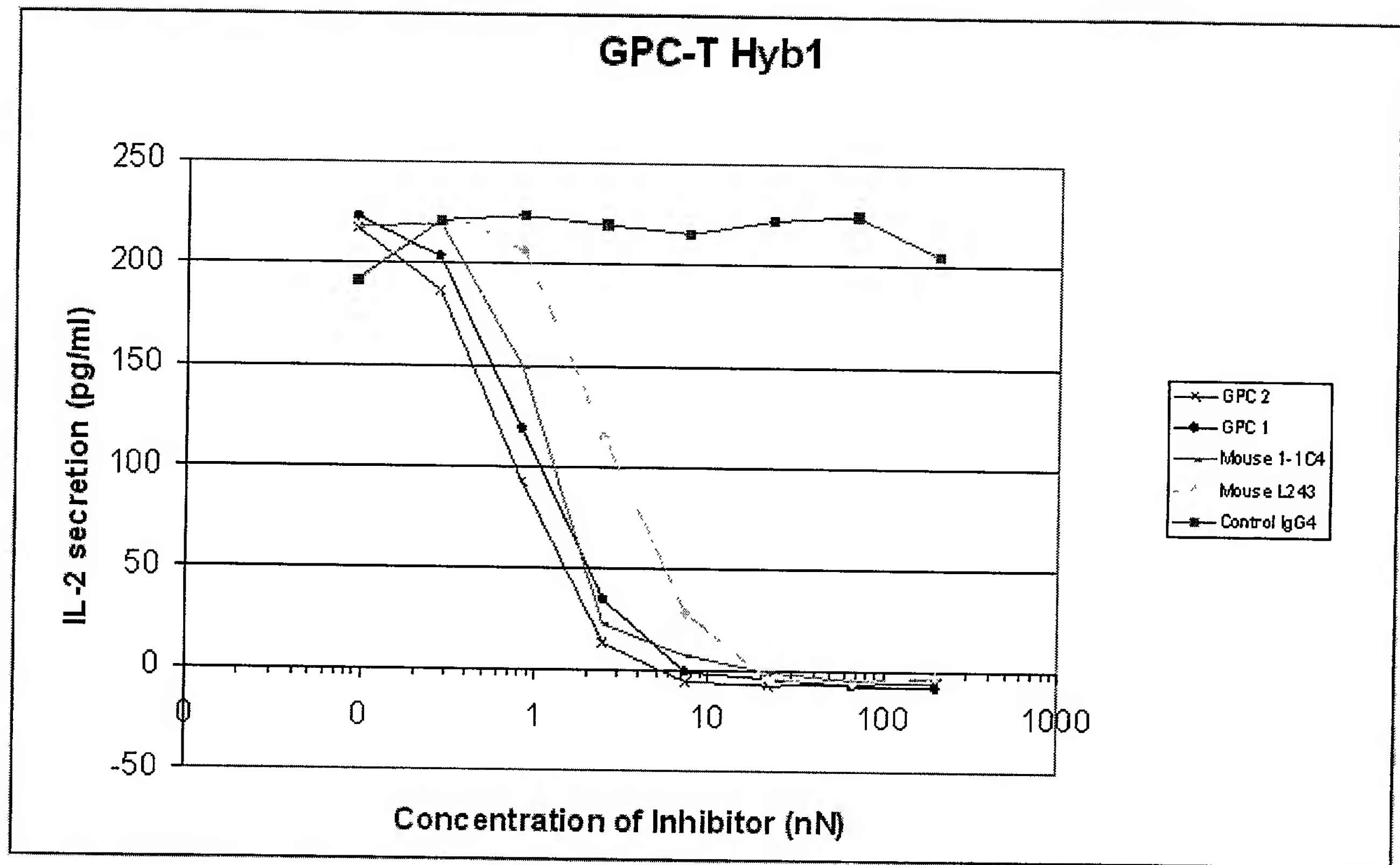


Figure 9d

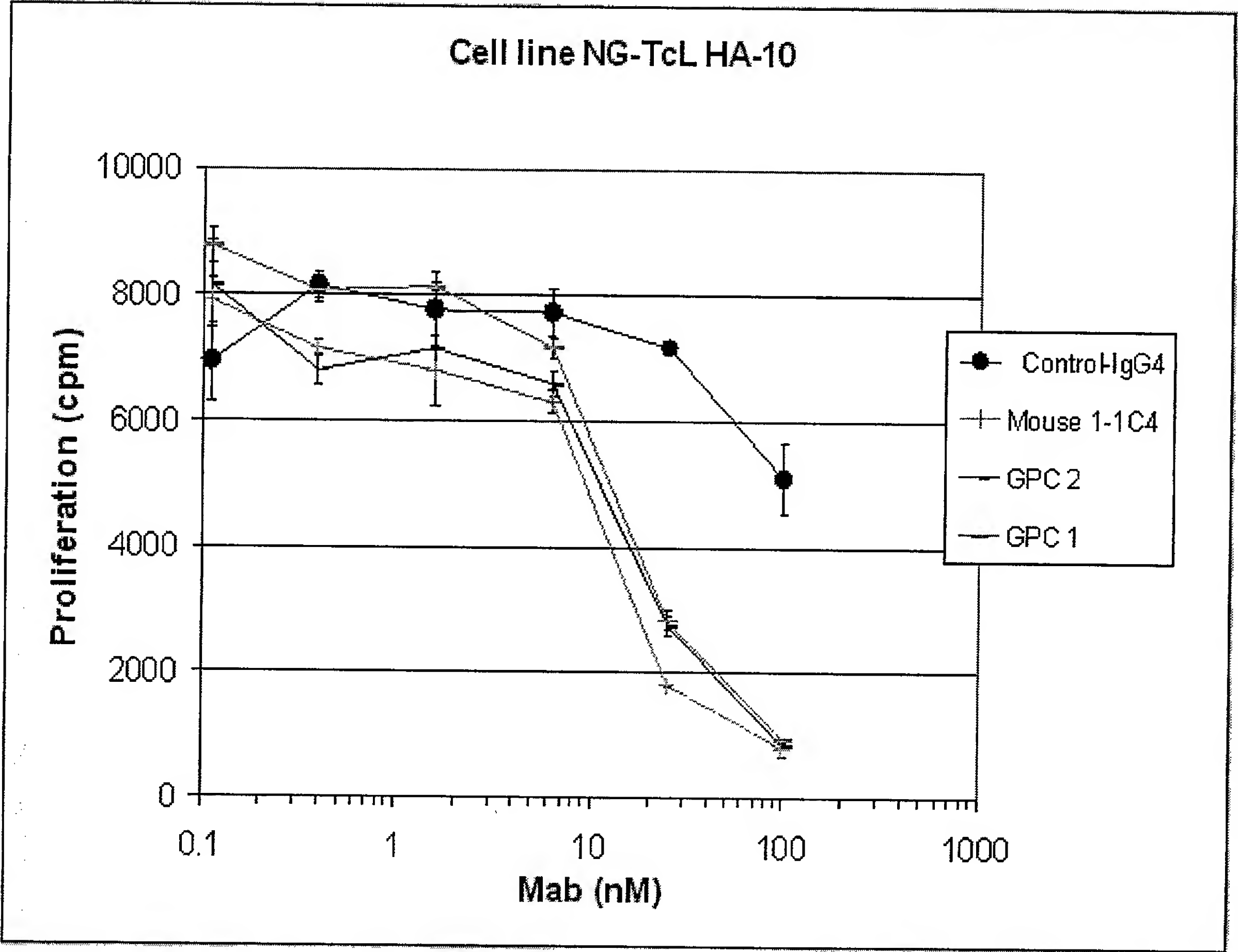


Figure 9e

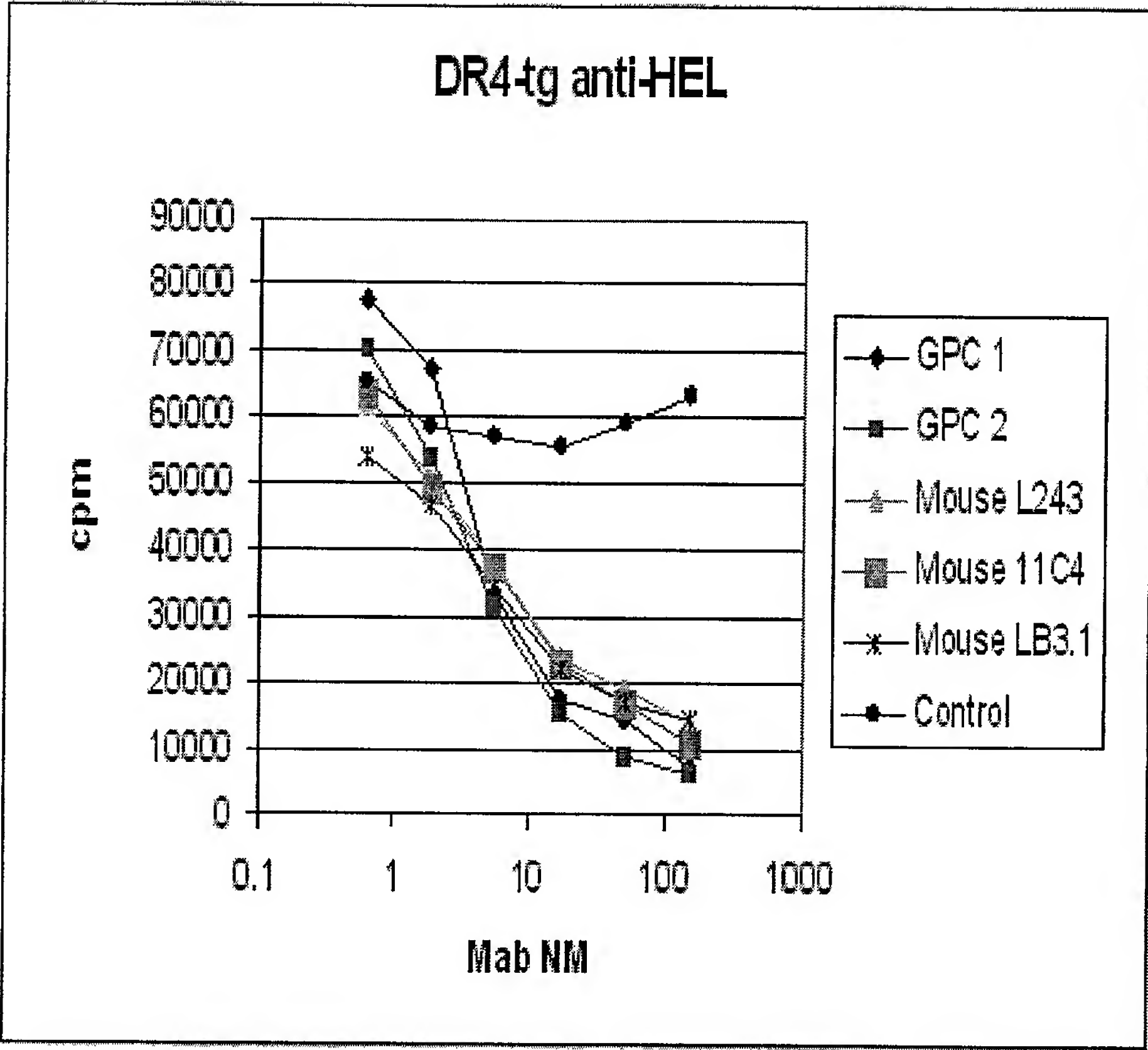


Figure 9f

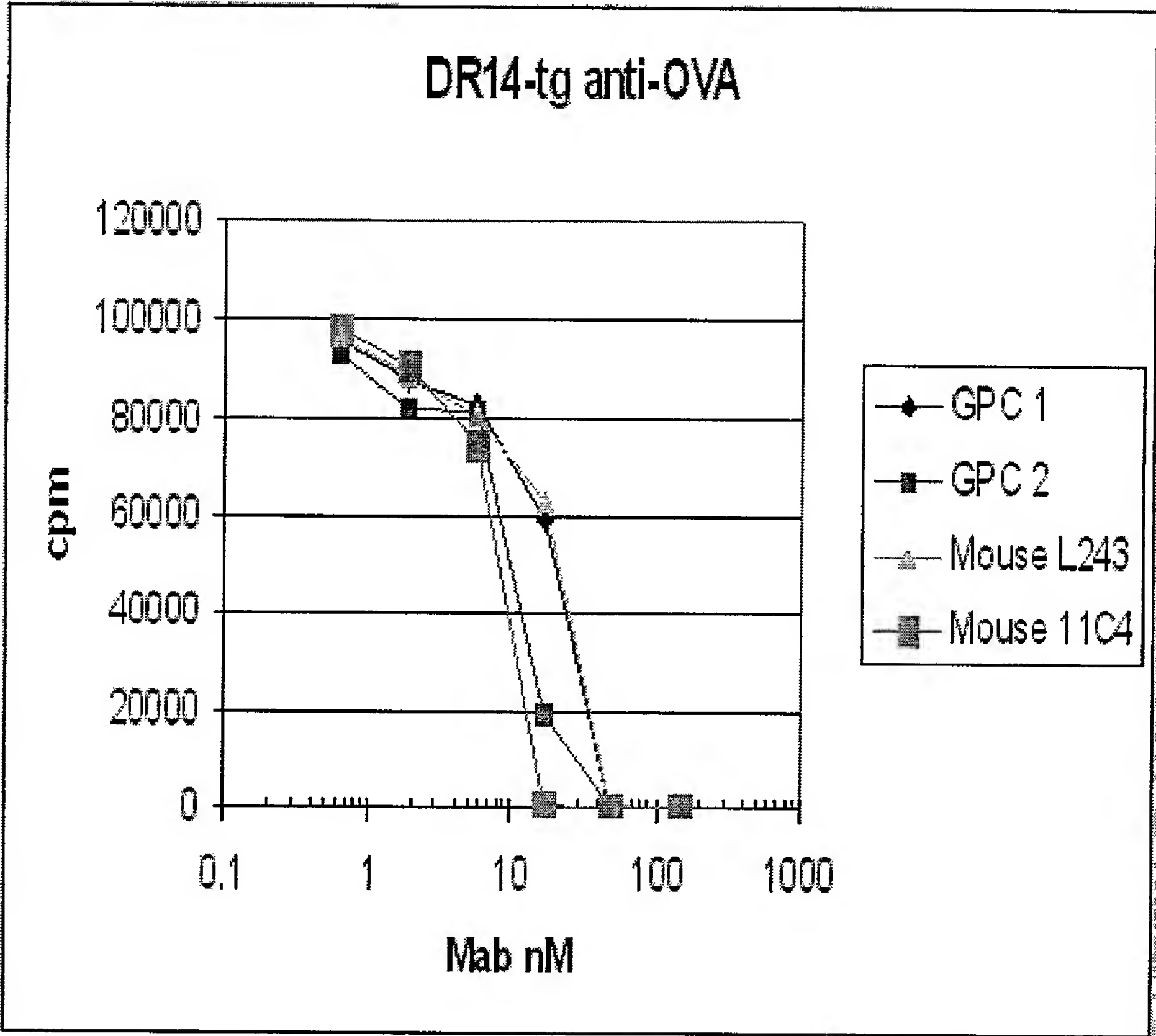


Figure 9g

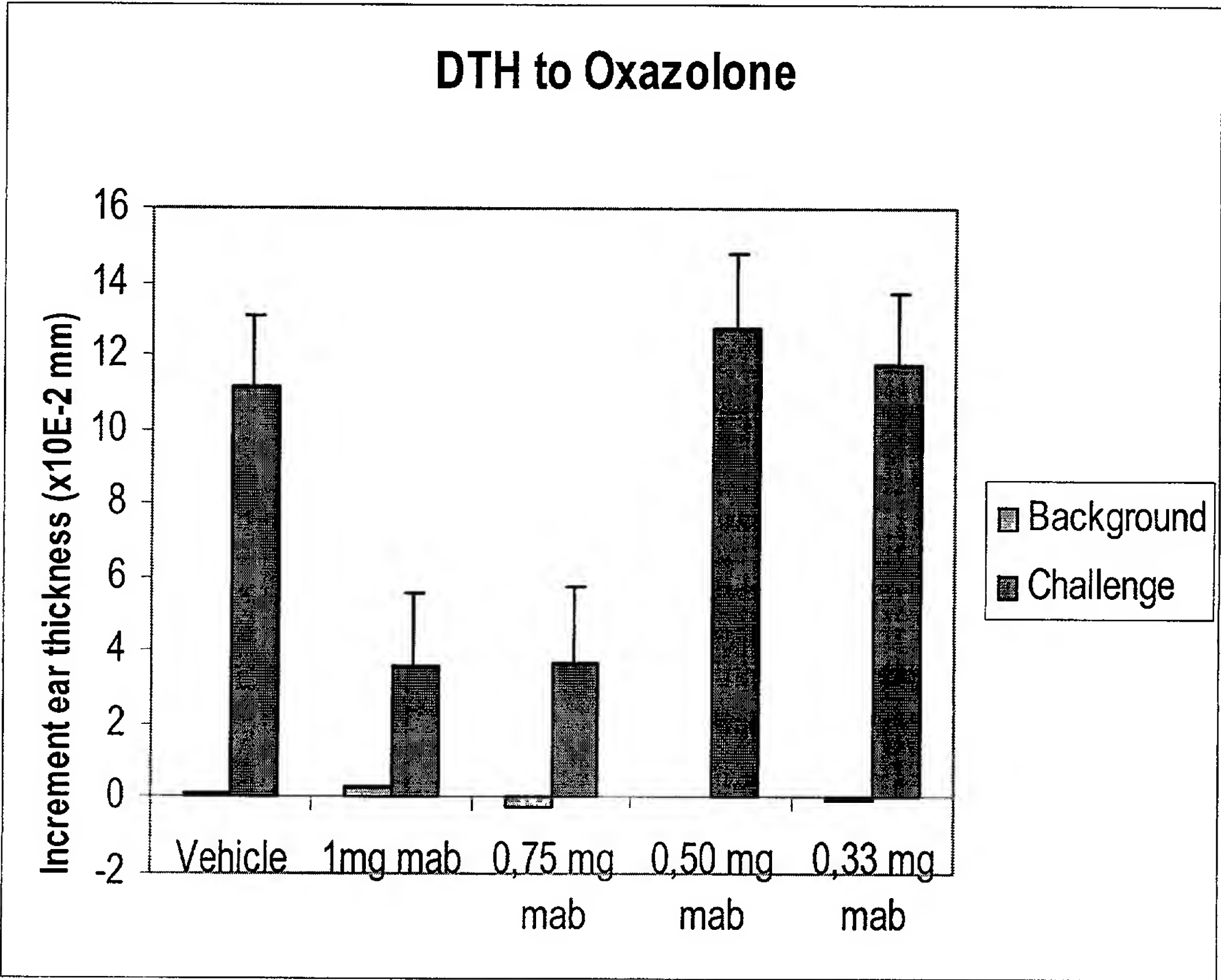
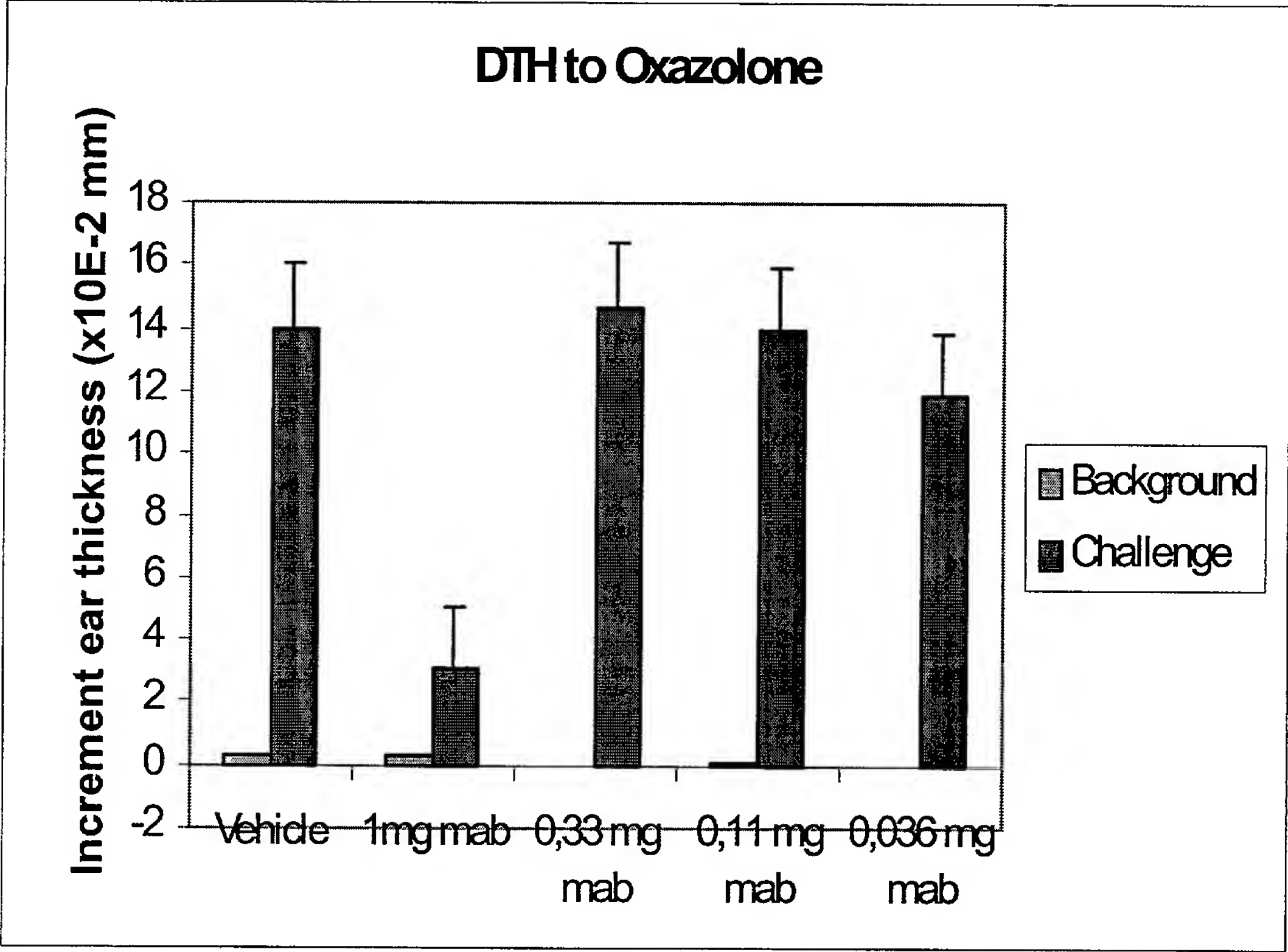
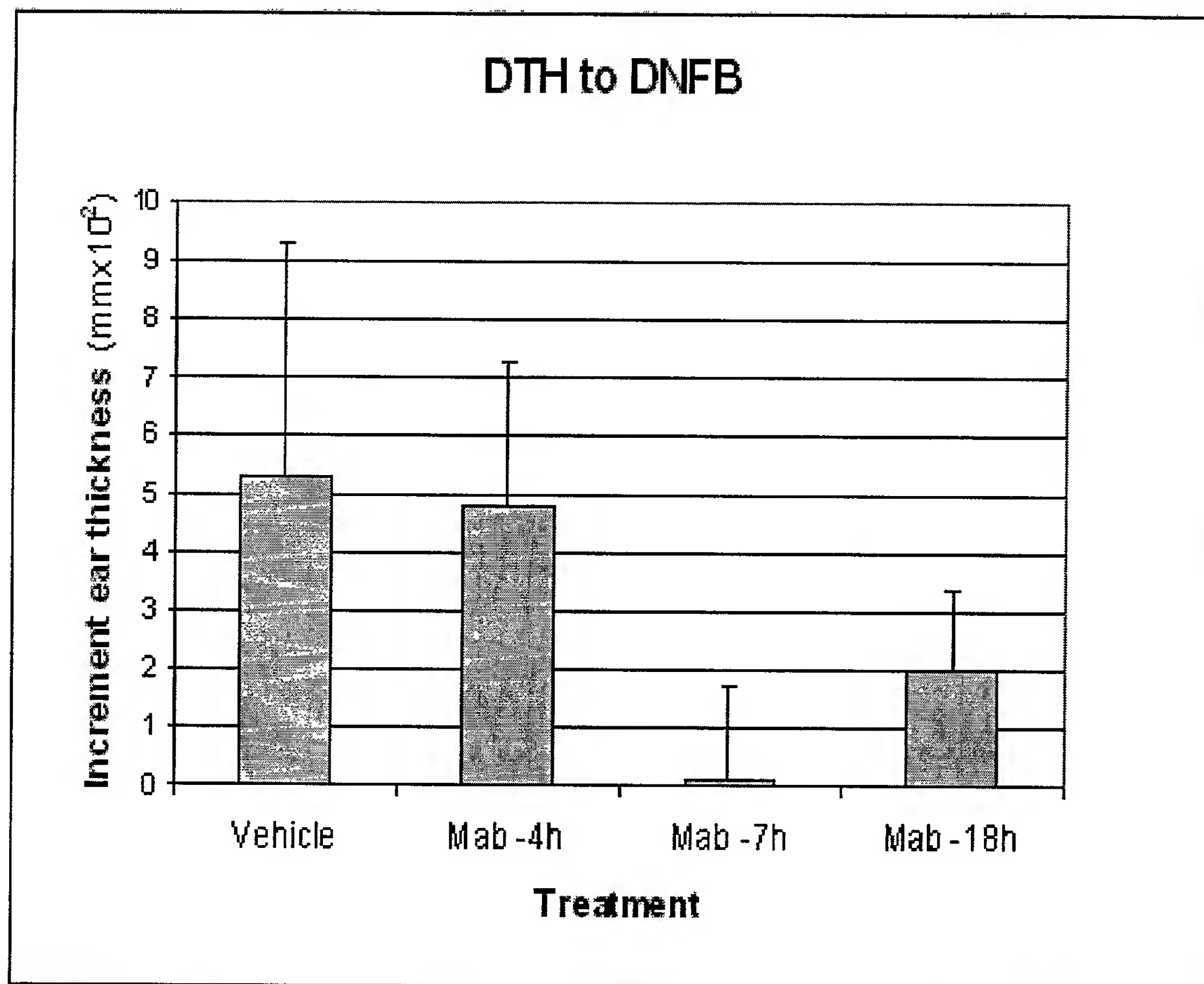
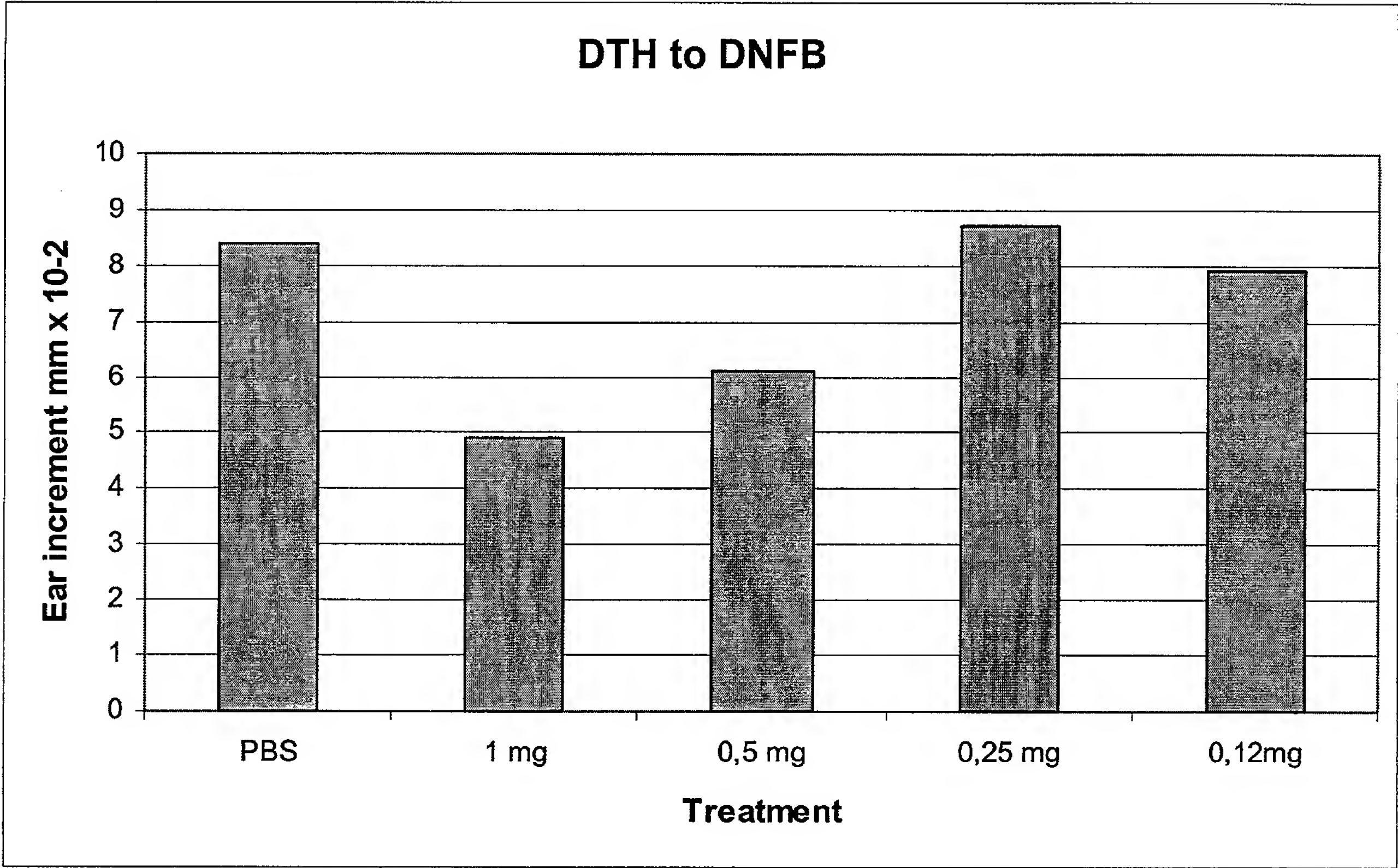


Figure 9h



mAb: 1D09C3

Figure 9I



mAb: 1D09C3

Figure 10

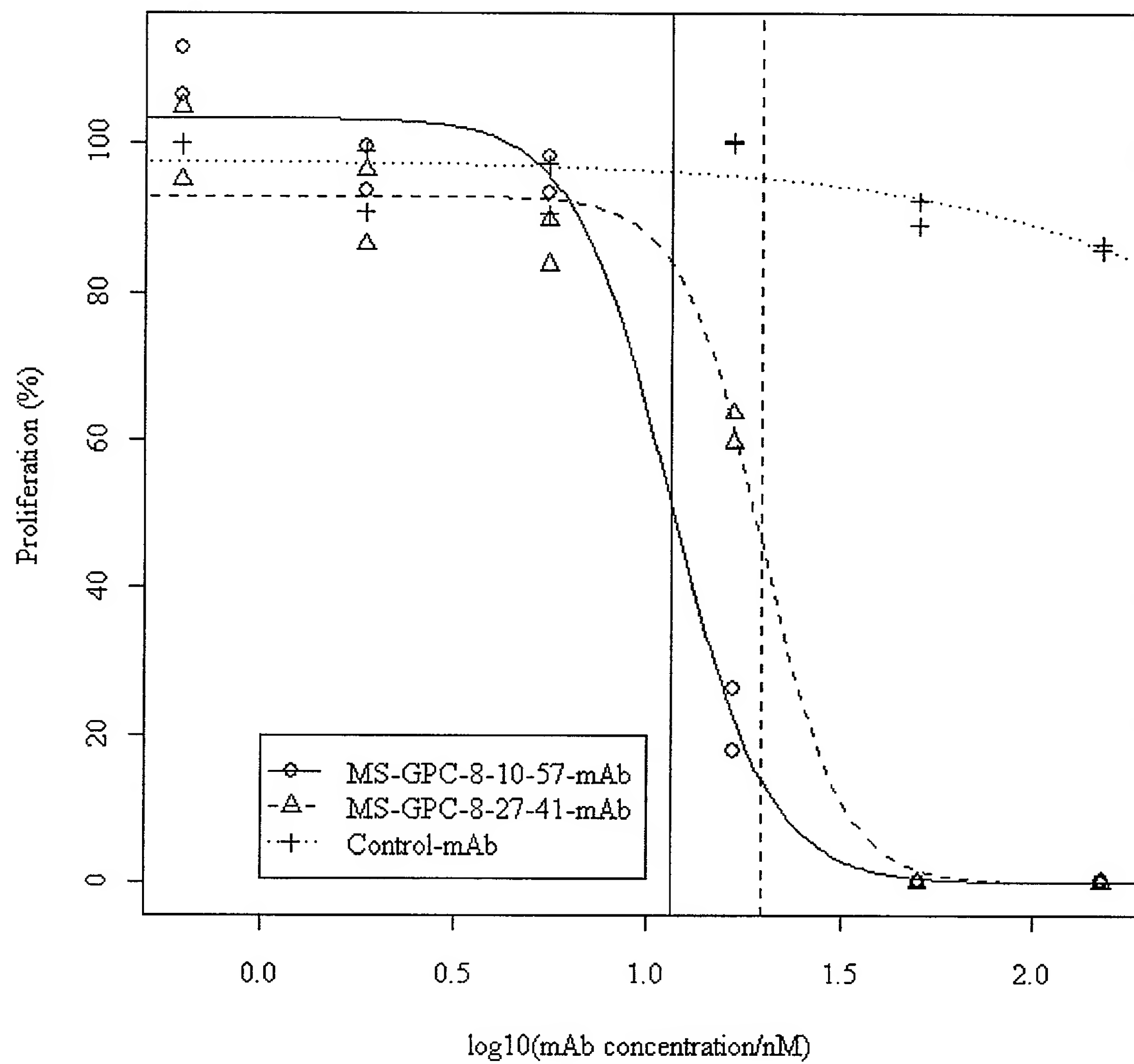


Figure 11

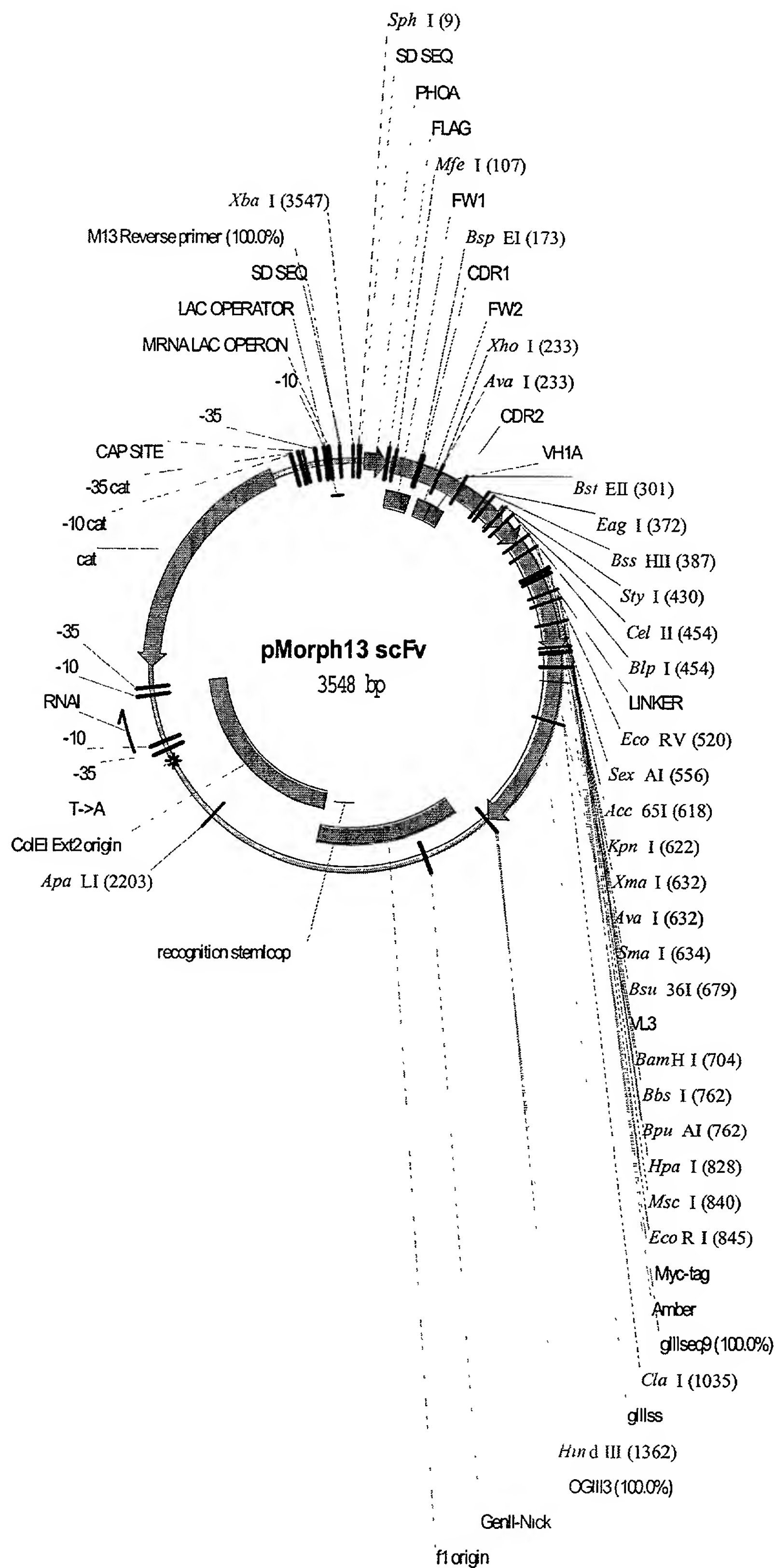


Figure 11 (cont.)

XbaISphI

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1 AGAGCATGCG TAGGAGAAAA TAAAATGAAA CAAAGCACTA TTGCACTGGC  
TCTCGTACGC ATCCTCTTTT ATTTTACTTT GTTTCGTGAT AACGTGACCG

51 ACTCTTACCG TTGCTCTTCA CCCCTGTTAC CAAAGCCGAC TACAAAGATG  
TGAGAATGGC AACGAGAAGT GGGGACAATG GTTTCGGCTG ATGTTTCTAC

MfeI

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101 AAGTGCAATT GGTTCAGTCT GGCGCGGAAG TGAAAAAACC GGGCAGCAGC
TTCACGTAA CCAAGTCAGA CCGCGCCTTC ACTTTTTTTGG CCCGTCGTCG

BspEI

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151 GTGAAAGTGA GCTGCAAAGC CTCCGGAGGC ACTTTTAGCA GCTATGCGAT  
CACTTTCCT CGACGTTTCG GAGGCCTCCG TGAAAATCGT CGATACGCTA

XhoI

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AvaI

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201 TAGCTGGGTG CGCCAAGCCC CTGGGCAGGG TCTCGAGTGG ATGGGCGGCA  
ATCGACCCAC GCGGTTCGGG GACCCGTCCC AGAGCTCACC TACCCGCCGT

BstEII

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251 TTATTCCGAT TTTTGGCACG GCGAACTACG CGCAGAAGTT TCAGGGCCGG  
AATAAGGCTA AAAACCGTGC CGCTTGATGC GCGTCTTCAA AGTCCCGGCC

BstEII

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301 GTGACCATTA CCGCGGATGA AAGCACCAGC ACCGCGTATA TGGAAGTGA
CACTGGTAAT GGCGCCTACT TTCGTGGTCG TGGCGCATAT ACCTTGACTC

EagI

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BssHII

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351 CAGCCTGCGT AGCGAAGATA CGGCCGTGTA TTATTGCGCG CGTTATTATG
GTCGGACGCA TCGCTTCTAT GCCGGCACAT AATAACGCGC GCAATAATAC

StyI

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401 ATCGTATGTA TAATATGGAT TATTGGGGCC AAGGCACCCT GGTGACGGTT  
TAGCATAACAT ATTATACCTA ATAACCCCGG TTCCGTGGGA CCACTGCCAA

BlpI

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CelII

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451 AGCTCAGCGG GTGGCGGTTC TGGCGGCGGT GGGAGCGGTG GCGGTGGTTC  
TCGAGTCGCC CACCGCCAAG ACCGCCGCCA CCCTCGCCAC CGCCACCAAG

EcoRV

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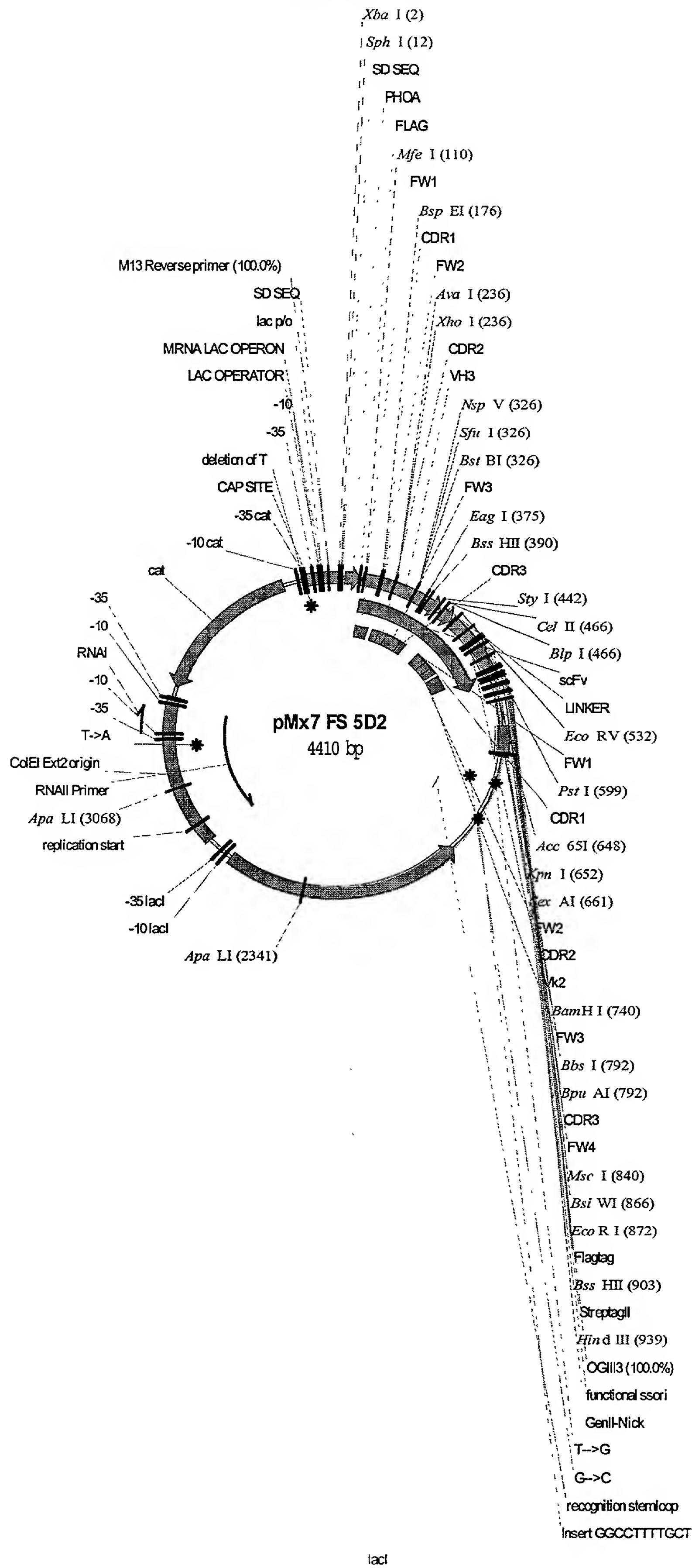
501 TGGCGGTGGT GGTTCGATA TCGAACTGAC CCAGCCGCCT TCAGTGAGCG

CCCTCGCCAC

2001	CAGAGGTGGC	GAAACCCGAC	AGGACTATAA	AGATACCAGG	CGTTTCCCCC
	GTCTCCACCG	CTTTGGGCTG	TCCTGATATT	TCTATGGTCC	GCAAAGGGGG
2051	TGGAAGCTCC	CTCGTGCGCT	CTCCTGTTCC	GACCCTGCCG	CTTACCGGAT
	ACCTTCGAGG	GAGCACGCGA	GAGGACAAGG	CTGGGACGGC	GAATGGCCTA
2101	ACCTGTCCGC	CTTTCTCCCT	TCGGGAAGCG	TGGCGCTTTC	TCATAGCTCA
	TGGACAGGCG	GAAAGAGGGA	AGCCCTTCGC	ACCGCGAAAG	AGTATCGAGT
2151	CGCTGTAGGT	ATCTCAGTTC	GGTGTAGGTC	GTTCGCTCCA	AGCTGGGCTG
	GCGACATCCA	TAGAGTCAAG	CCACATCCAG	CAAGCGAGGT	TCGACCCGAC
	ApaLI				
	~~~~~				
2201	TGTGCACGAA	CCCCCGTTC	AGTCCGACCG	CTGCGCCTTA	TCCGGTAACT
	ACACGTGCTT	GGGGGGCAAG	TCAGGCTGGC	GACGCGGAAT	AGGCCATTGA
2251	ATCGTCTTGA	GTCCAACCCG	GTAAGACACG	ACTTATCGCC	ACTGGCAGCA
	TAGCAGAACT	CAGGTTGGGC	CATTCTGTGC	TGAATAGCGG	TGACCGTCGT
2301	GCCACTGGTA	ACAGGATTAG	CAGAGCGAGG	TATGTAGGCG	GTGCTACAGA
	CGGTGACCAT	TGTCCTAATC	GTCTCGCTCC	ATACATCCGC	CACGATGTCT
2351	GTTCTTGAAG	TGGTGGCCTA	ACTACGGCTA	CACTAGAAGA	ACAGTATTTG
	CAAGAACTTC	ACCACCGGAT	TGATGCCGAT	GTGATCTTCT	TGTCATAAAC
2401	GTATCTGCGC	TCTGCTGTAG	CCAGTTACCT	TCGGAAAAAG	AGTTGGTAGC
	CATAGACGCG	AGACGACATC	GGTCAATGGA	AGCCTTTTTT	TCAACCATCG
2451	TCTTGATCCG	GCAAACAAAC	CACCGCTGGT	AGCGGTGGTT	TTTTTGTTTG
	AGAACTAGGC	CGTTTGTTTG	GTGGCGACCA	TCGCCACCAA	AAAAACAAAC
2501	CAAGCAGCAG	ATTACGCGCA	GAAAAAAAGG	ATCTCAAGAA	GATCCTTTGA
	GTTCGTCGTC	TAATGCGCGT	CTTTTTTTTCC	TAGAGTTCTT	CTAGGAAACT
2551	TCTTTTCTAC	GGGGTCTGAC	GCTCAGTGGA	ACGAAAACCTC	ACGTTAAGGG
	AGAAAAGATG	CCCCAGACTG	CGAGTCACCT	TGCTTTTGAG	TGCAATTCCC
2601	ATTTTGGTCA	GATCTAGCAC	CAGGCGTTTA	AGGGCACCAA	TAACTGCCTT
	TAAAACCAGT	CTAGATCGTG	GTCCGCAAAT	TCCCGTGGTT	ATTGACGGAA
2651	AAAAAAATTA	CGCCCCGCCC	TGCCACTCAT	CGCAGTACTG	TTGTAATTCA
	TTTTTTTAAT	GCGGGGCGGG	ACGGTGAGTA	GCGTCATGAC	AACATTAAGT
2701	TTAAGCATTC	TGCCGACATG	GAAGCCATCA	CAAACGGCAT	GATGAACCTG
	AATTCGTAAG	ACGGCTGTAC	CTTCGGTAGT	GTTTGCCGTA	CTACTTGGAC
2751	AATCGCCAGC	GGCATCAGCA	CCTTGTCGCC	TTGCGTATAA	TATTTGCCCA
	TTAGCGGTCTG	CCGTAGTCGT	GGAACAGCGG	AACGCATATT	ATAAACGGGT
2801	TAGTGAAAAC	GGGGGCGAAG	AAGTTGTCCA	TATTGGCTAC	GTTTAAATCA
	ATCACTTTTG	CCCCGCTTC	TTCAACAGGT	ATAACCGATG	CAAATTTAGT
2851	AAACTGGTGA	AACTCACCCA	GGGATTGGCT	GAGACGAAAA	ACATATTCTC
	TTTGACCACT	TTGAGTGGGT	CCCTAACCGA	CTCTGCTTTT	TGTATAAGAG

2901	AATAAACCCCT	TTAGGGAAAT	AGGCCAGGTT	TTCACCGTAA	CACGCCACAT
	TTATTTGGGA	AATCCCTTTA	TCCGGTCCAA	AAGTGGCATT	GTGCGGTGTA
2951	CTTGCGAATA	TATGTGTAGA	AACTGCCGGA	AATCGTCGTG	GTATTCACCTC
	GAACGCTTAT	ATACACATCT	TTGACGGCCT	TTAGCAGCAC	CATAAGTGAG
3001	CAGAGCGATG	AAAACGTTTC	AGTTTGCTCA	TGGAAAACGG	TGTAACAAGG
	GTCTCGCTAC	TTTTGCAAAG	TCAAACGAGT	ACCTTTTGCC	ACATTGTTCC
3051	GTGAACACTA	TCCCATATCA	CCAGCTCACC	GTCTTTCATT	GCCATACGGA
	CACTTGTGAT	AGGGTATAGT	GGTCGAGTGG	CAGAAAGTAA	CGGTATGCCT
3101	ACTCCGGGTG	AGCATTCATC	AGGCGGGCAA	GAATGTGAAT	AAAGGCCGGA
	TGAGGCCAC	TCGTAAGTAG	TCCGCCCGTT	CTTACACTTA	TTCCCGGCCT
3151	TAAAACTTGT	GCTTATTTTT	CTTTACGGTC	TTTAAAAAGG	CCGTAATATC
	ATTTTGAACA	CGAATAAAAA	GAAATGCCAG	AAATTTTTTCC	GGCATTATAG
3201	CAGCTGAACG	GTCTGGTTAT	AGGTACATTG	AGCAACTGAC	TGAAATGCCT
	GTGCACTTGC	CAGACCAATA	TCCATGTAAC	TCGTTGACTG	ACTTTACGGA
3251	CAAAATGTTC	TTTACGATGC	CATTGGGATA	TATCAACGGT	GGTATATCCA
	GTTTTACAAG	AAATGCTACG	GTAACCCTAT	ATAGTTGCCA	CCATATAGGT
3301	GTGATTTTTT	TCTCCATTTT	AGCTTCCTTA	GCTCCTGAAA	ATCTCGATAA
	CACTAAAAAA	AGAGGTAAAA	TCGAAGGAAT	CGAGGACTTT	TAGAGCTATT
3351	CTCAAAAAAT	ACGCCCCGTA	GTGATCTTAT	TTCATTATGG	TGAAAGTTGG
	GAGTTTTTTA	TGCGGGCCAT	CACTAGAATA	AAGTAATACC	ACTTTCAACC
3401	AACCTCACCC	GACGTCTAAT	GTGAGTTAGC	TCACTCATTA	GGCACCCCAG
	TTGGAGTGGG	CTGCAGATTA	CACTCAATCG	AGTGAGTAAT	CCGTGGGGTC
3451	GCTTTACACT	TTATGCTTCC	GGCTCGTATG	TTGTGTGGAA	TTGTGAGCGG
	CGAAATGTGA	AATACGAAGG	CCGAGCATAC	AACACACCTT	AACACTCGCC
		M13 Reverse primer 100.0%		XbaI	
		=====		~~	
3501	ATAACAATTT	CACACAGGAA	ACAGCTATGA	CCATGATTAC	GAATTTCT
	TATTGTTAAA	GTGTGTCCTT	TGTCGATACT	GGTACTAATG	CTTAAAGA

Figure 12



## Figure 12 (cont)

XbaI SphI

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1 TCTAGAGCAT GCGTAGGAGA AAATAAAATG AAACAAAGCA CTATTGCACT
AGATCTCGTA CGCATCCTCT TTTATTTTAC TTTGTTTCGT GATAACGTGA

51 GGCACTCTTA CCGTTGCTCT TCACCCCTGT TACCAAAGCC GACTACAAAG
CCGTGAGAAT GGCAACGAGA AGTGGGGACA ATGGTTTCGG CTGATGTTTC

MfeI

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101 ATGAAGTGCA ATTGGTGGAA AGCGGCGGCG GCCTGGTGCA ACCGGGCGGC  
TACTTCACGT TAACCACCTT TCGCCGCCGC CGGACCACGT TGGCCCGCCG

BspEI

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151 AGCCTGCGTC TGAGCTGCGC GGCCTCCGGA TTTACCTTTA GCAGCTATGC
TCGGACGCAG ACTCGACGCG CCGGAGGCCT AAATGGAAAT CGTCGATACG

XhoI

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AvaI

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201 GATGAGCTGG GTGCGCCAAG CCCCTGGGAA GGGTCTCGAG TGGGTGAGCG
CTACTCGACC CACGCGGTTC GGGGACCCTT CCCAGAGCTC ACCCACTCGC

251 CGATTAGCGG TAGCGGCGGC AGCACCTATT ATGCGGATAG CGTGAAAGGC
GCTAATCGCC ATCGCCGCCG TCGTGGATAA TACGCCTATC GCACTTTCCG

BstBI

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SfuI

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NspV

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301 CGTTTTACCA TTTCACGTGA TAATTGAAA AACACCCTGT ATCTGCAAAT  
GCAAAATGGT AAAGTGCACT ATTAAGCTTT TTGTGGGACA TAGACGTTTA

EagI

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BssHII

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351 GAACAGCCTG CGTGCGGAAG ATACGGCCGT GTATTATTGC GCGCGTGTTA  
CTTGTCGGAC GCACGCCTTC TATGCCGGCA CATAATAACG CGCGCACAAT

StyI

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401 AGAAGCATTT TTCTCGTAAG AATTGGTTTG ATTATTGGGG CCAAGGCACC
TCTTCGTAAA AAGAGCATTC TTAACCAAAC TAATAACCCC GGTTCGGTGG

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451 CTGGTGACGG TTAGCTCAGC GGGTGGCGGT TCTGGCGGCG GTGGGAGCGG
GACCACTGCC AATCGAGTCG CCCACCGCCA AGACCGCCGC CACCCTCGCC

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501 TGGCGGTGGT TCTGGCGGTG GTGGTTCCGA TATCGTGATG ACCCAGAGCC  
ACCGCCACCA AGACCGCCAC CACCAAGGCT ATAGCACTAC TGGGTCTCGG

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551 CACTGAGCCT GCCAGTGACT CCGGGCGAGC CTGCGAGCAT TAGCTGCAGA
GTGACTCGGA CGGTCACTGA GGCCCGCTCG GACGCTCGTA ATCGACGTCT

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601 AGCAGCCAAA GCCTGCTGCA TAGCAACGGC TATAACTATC TGGATTGGTA
TCGTCGGTTT CGGACGACGT ATCGTTGCCG ATATTGATAG ACCTAACCAT

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SexAI

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651 CCTTCAAAAA CCAGGTCAAA GCCCGCAGCT ATTAATTTAT CTGGGCAGCA  
GGAAGTTTTT GGTCCAGTTT CGGGCGTCGA TAATTAAATA GACCCGTCGT

~~~~~

701 ACCGTGCCAG TGGGGTCCCG GATCGTTTTA GCGGCTCTGG ATCCGGCACC
 TGGCACGGTC ACCCCAGGGC CTAGCAAAAT CGCCGAGACC TAGGCCGTGG

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751 GATTTTACCC TGAAAATTAG CCGTGTGGAA GCTGAAGACG TGGGCGTGTA
CTAAAATGGG ACTTTTAATC GGCACACCTT CGACTTCTGC ACCCGCACAT

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801 TTATTGCCAG CAGCATTATA CCACCCCGCC GACCTTTGGC CAGGGTACGA  
AATAACGGTC GTCGTAATAT GGTGGGGCGG CTGGAAACCG GTCCCATGCT

Table 1. Demographic characteristics of the study population	
Age (years)	50.0 ± 10.0
Gender	Male 50, Female 50
Education (years)	12.0 ± 2.0
Occupation	Professional 30, Non-professional 20
Marital status	Married 40, Single 10
Family size	2.5 ± 1.0
Income (USD/month)	1500 ± 500
Smoking status	Smoker 10, Non-smoker 40
Alcohol consumption	Regular 5, Occasional 15, None 30
Exercise frequency	Regular 10, Irregular 15, None 25
Stress level	High 15, Moderate 20, Low 15
Comorbidities	Hypertension 10, Diabetes 5, Cholesterol 15
Medication use	Yes 10, No 40
Health insurance	Yes 40, No 10
Healthcare access	Easy 30, Difficult 20
Healthcare utilization	Regular 10, Irregular 15, None 25
Healthcare satisfaction	Satisfied 30, Dissatisfied 20
Healthcare cost	High 10, Low 20, Moderate 20
Healthcare quality	Good 30, Fair 20, Poor 10
Healthcare safety	High 30, Low 20, Moderate 20
Healthcare effectiveness	High 30, Low 20, Moderate 20
Healthcare equity	High 30, Low 20, Moderate 20
Healthcare sustainability	High 30, Low 20, Moderate 20
Healthcare accountability	High 30, Low 20, Moderate 20
Healthcare transparency	High 30, Low 20, Moderate 20
Healthcare integrity	High 30, Low 20, Moderate 20
Healthcare honesty	High 30, Low 20, Moderate 20
Healthcare justice	High 30, Low 20, Moderate 20
Healthcare fairness	High 30, Low 20, Moderate 20
Healthcare respect	High 30, Low 20, Moderate 20
Healthcare dignity	High 30, Low 20, Moderate 20
Healthcare autonomy	High 30, Low 20, Moderate 20
Healthcare privacy	High 30, Low 20, Moderate 20
Healthcare confidentiality	High 30, Low 20, Moderate 20
Healthcare security	High 30, Low 20, Moderate 20
Healthcare risk management	High 30, Low 20, Moderate 20
Healthcare quality improvement	High 30, Low 20, Moderate 20
Healthcare patient engagement	High 30, Low 20, Moderate 20
Healthcare patient participation	High 30, Low 20, Moderate 20
Healthcare patient empowerment	High 30, Low 20, Moderate 20
Healthcare patient education	High 30, Low 20, Moderate 20
Healthcare patient counseling	High 30, Low 20, Moderate 20
Healthcare patient support	High 30, Low 20, Moderate 20
Healthcare patient advocacy	High 30, Low 20, Moderate 20
Healthcare patient representation	High 30, Low 20, Moderate 20
Healthcare patient voice	High 30, Low 20, Moderate 20
Healthcare patient choice	High 30, Low 20, Moderate 20
Healthcare patient control	High 30, Low 20, Moderate 20
Healthcare patient power	High 30, Low 20, Moderate 20
Healthcare patient influence	High 30, Low 20, Moderate 20
Healthcare patient impact	High 30, Low 20, Moderate 20
Healthcare patient legacy	High 30, Low 20, Moderate 20
Healthcare patient heritage	High 30, Low 20, Moderate 20
Healthcare patient tradition	High 30, Low 20, Moderate 20
Healthcare patient culture	High 30, Low 20, Moderate 20
Healthcare patient identity	High 30, Low 20, Moderate 20
Healthcare patient personality	High 30, Low 20, Moderate 20
Healthcare patient character	High 30, Low 20, Moderate 20
Healthcare patient values	High 30, Low 20, Moderate 20
Healthcare patient beliefs	High 30, Low 20, Moderate 20
Healthcare patient attitudes	High 30, Low 20, Moderate 20
Healthcare patient emotions	High 30, Low 20, Moderate 20
Healthcare patient thoughts	High 30, Low 20, Moderate 20
Healthcare patient actions	High 30, Low 20, Moderate 20
Healthcare patient behaviors	High 30, Low 20, Moderate 20
Healthcare patient habits	High 30, Low 20, Moderate 20
Healthcare patient preferences	High 30, Low 20, Moderate 20
Healthcare patient interests	High 30, Low 20, Moderate 20
Healthcare patient passions	High 30, Low 20, Moderate 20
Healthcare patient dreams	High 30, Low 20, Moderate 20
Healthcare patient aspirations	High 30, Low 20, Moderate 20
Healthcare patient goals	High 30, Low 20, Moderate 20
Healthcare patient ambitions	High 30, Low 20, Moderate 20
Healthcare patient wishes	High 30, Low 20, Moderate 20
Healthcare patient desires	High 30, Low 20, Moderate 20
Healthcare patient needs	High 30, Low 20, Moderate 20
Healthcare patient wants	High 30, Low 20, Moderate 20
Healthcare patient requirements	High 30, Low 20, Moderate 20
Healthcare patient expectations	High 30, Low 20, Moderate 20
Healthcare patient standards	High 30, Low 20, Moderate 20
Healthcare patient benchmarks	High 30, Low 20, Moderate 20
Healthcare patient metrics	High 30, Low 20, Moderate 20
Healthcare patient indicators	High 30, Low 20, Moderate 20
Healthcare patient markers	High 30, Low 20, Moderate 20
Healthcare patient signals	High 30, Low 20, Moderate 20
Healthcare patient cues	High 30, Low 20, Moderate 20
Healthcare patient clues	High 30, Low 20, Moderate 20
Healthcare patient hints	High 30, Low 20, Moderate 20
Healthcare patient suggestions	High 30, Low 20, Moderate 20
Healthcare patient recommendations	High 30, Low 20, Moderate 20
Healthcare patient advice	High 30, Low 20, Moderate 20
Healthcare patient guidance	High 30, Low 20, Moderate 20
Healthcare patient direction	High 30, Low 20, Moderate 20
Healthcare patient instruction	High 30, Low 20, Moderate 20
Healthcare patient teaching	High 30, Low 20, Moderate 20
Healthcare patient learning	High 30, Low 20, Moderate 20
Healthcare patient knowledge	High 30, Low 20, Moderate 20
Healthcare patient understanding	High 30, Low 20, Moderate 20
Healthcare patient awareness	High 30, Low 20, Moderate 20
Healthcare patient recognition	High 30, Low 20, Moderate 20
Healthcare patient realization	High 30, Low 20, Moderate 20
Healthcare patient acknowledgment	High 30, Low 20, Moderate 20
Healthcare patient admission	High 30, Low 20, Moderate 20
Healthcare patient confession	High 30, Low 20, Moderate 20
Healthcare patient declaration	High 30, Low 20, Moderate 20
Healthcare patient statement	High 30, Low 20, Moderate 20
Healthcare patient assertion	High 30, Low 20, Moderate 20
Healthcare patient claim	High 30, Low 20, Moderate 20
Healthcare patient demand	High 30, Low 20, Moderate 20
Healthcare patient request	High 30, Low 20, Moderate 20
Healthcare patient plea	High 30, Low 20, Moderate 20
Healthcare patient appeal	High 30, Low 20, Moderate 20

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                                BsiWI  EcoRI
                                ~~~~~~
851 AAGTTGAAAT TAAACGTACG GAATTCGACT ATAAAGATGA CGATGACAAA
 TTCAACTTTA ATTTGCATGC CTTAAGCTGA TATTTCTACT GCTACTGTTT

 BssHII HindIII
    ~~~~~~                               ~~~~~~
901  GGCGCGCCGT GGAGCCACCC GCAGTTTGAA AAATGATAAG CTTGACCTGT
    CCGCGCGGCA CCTCGGTGGG CGTCAAACCTT TTTACTATTC GAACTGGACA
                                           OGIII3  100.0%
                                           =====

951  GAAGTGAAAA ATGGCGCAGA TTGTGCGACA TTTTTTTTGT CTGCCGTTTA
    CTTCACTTTT TACCGCGTCT AACACGCTGT AAAAAAACA GACGGCAAAT
    OGIII3  100.0%
    =====

1001 ATTAAAGGGG GGGGGGGGCC GGCCTGGGGG GGGGTGTACA TGAAATTGTA
    TAATTTCCCC CCCCCCCCGG CCGGACCCCC CCCACATGT ACTTTAACAT

1051 AACGTTAATA TTTTGTTAAA ATTCGCGTTA AATTTTGTGT AAATCAGCTC
    TTGCAATTAT AAAACAATTT TAAGCGCAAT TTAAAAACAA TTTAGTCGAG

1101 ATTTTTTAAC CAATAGGCCG AAATCGGCAA AATCCCTTAT AAATCAAAAG
    TAAAAAATTG GTTATCCGGC TTTAGCCGTT TTAGGGAATA TTTAGTTTTT

1151 AATAGACCGA GATAGGGTTG AGTGTTGTTC CAGTTTGGAA CAAGAGTCCA
    TTATCTGGCT CTATCCCAAC TCACAACAAG GTCAAACCTT GTTCTCAGGT

1201 CTATTAAAGA ACGTGGACTC CAACGTCAAA GGGCGAAAAA CCGTCTATCA
    GATAATTTCT TGCACCTGAG GTTGCAGTTT CCCGCTTTTT GGCAGATAGT

1251 GGGCGATGGC CCACTACGAG AACCATCACC CTAATCAAGT TTTTGGGGT
    CCCGCTACCG GGTGATGCTC TTGGTAGTGG GATTAGTTCA AAAAACCCCA

1301 CGAGGTGCCG TAAAGCACTA AATCGGAACC CTAAAGGGAG CCCCCGATTT
    GCTCCACGGC ATTTCTGTGAT TTAGCCTTGG GATTTCCCTC GGGGGCTAAA

1351 AGAGCTTGAC GGGGAAAGCC GGCGAACGTG GCGAGAAAGG AAGGGAAGAA
    TCTCGAACTG CCCCTTTCGG CCGCTTGCAC CGCTCTTTCC TTCCCTTCTT

1401 AGCGAAAGGA GCGGGCGCTA GGGCGCTGGC AAGTGTAGCG GTCACGCTGC
    TCGCTTTCCT CGCCCGCGAT CCCGCGACCG TTCACATCGC CAGTGCGACG

1451 GCGTAACCAC CACACCCGCC GCGCTTAATG CGCCGCTACA GGGCGCGTGC
    CGCATTGGTG GTGTGGGCGG CGCGAATTAC GCGGCGATGT CCCGCGCACG

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2401	GCACCCAGTT	GATCGGCGCG	AGATTTAATC	GCCGCGACAA	TTTGCGACGG
	CGTGGGTCAA	CTAGCCGCGC	TCTAAATTAG	CGGCGCTGTT	AAACGCTGCC
2451	CGCGTGCAGG	GCCAGACTGG	AGGTGGCAAC	GCCAATCAGC	AACGACTGTT
	GCGCACGTCC	CGGTCTGACC	TCCACCGTTG	CGGTTAGTCG	TTGCTGACAA
2501	TGCCCCGCCAG	TTGTTGTGCC	ACGCGGTTAG	GAATGTAATT	CAGCTCCGCC
	ACGGGCGGTC	AACAACACGG	TGCGCCAATC	CTTACATTAA	GTGAGGCGG
2551	ATCGCCGCTT	CCACTTTTTTC	CCGCGTTTTTC	GCAGAAACGT	GGCTGGCCTG
	TAGCGGCGAA	GGTGAAAAAG	GGCGCAAAAG	CGTCTTTGCA	CCGACCGGAC
2601	G TTCACCACG	CGGGAAACGG	TCTGATAAGA	GACACCGGCA	TACTCTGCGA
	CAAGTGGTGC	GCCCTTTGCC	AGACTATTCT	CTGTGGCCGT	ATGAGACGCT
2651	CATCGTATAA	CGTTACTGGT	TTCACATTCA	CCACCCTGAA	TTGACTCTCT
	G TAGCATATT	GCAATGACCA	AAGTGTAAGT	GGTGGGACTT	AACTGAGAGA
2701	TCCGGGCGCT	ATCATGCCAT	ACCGCGAAAG	GTTTTGCGCC	ATTCGATGCT
	AGGCCCGCGA	TAGTACGGTA	TGGCGCTTTC	CAAAACGCGG	TAAGCTACGA
2751	AGCCATGTGA	GCAAAAGGCC	AGCAAAAGGC	CAGGAACCGT	AAAAAGGCCG
	TCGGTACACT	CGTTTTTCCG	TCGTTTTCCG	GTCTTTGGCA	TTTTTCCGGC
2801	CGTTGCTGGC	GTTTTTCCAT	AGGCTCCGCC	CCCCTGACGA	GCATCACAAA
	GCAACGACCG	CAAAAAGGTA	TCCGAGGCGG	GGGGACTGCT	CGTAGTGTTT
2851	AATCGACGCT	CAAGTCAGAG	GTGGCGAAAC	CCGACAGGAC	TATAAAGATA
	TTAGCTGCGA	GTTCAGTCTC	CACCGCTTTG	GGCTGTCCTG	ATATTTCTAT
2901	CCAGGCGTTT	CCCCCTGGAA	GCTCCCTCGT	GCGCTCTCCT	GTTCCGACCC
	GGTCCGCAAA	GGGGGACCTT	CGAGGGAGCA	CGCGAGAGGA	CAAGGCTGGG
2951	TGCCGCTTAC	CGGATACCTG	TCCGCCTTTC	TCCCTTCGGG	AAGCGTGGCG
	ACGGCGAATG	GCCTATGGAC	AGGCGGAAAG	AGGGAAGCCC	TTCGCACCGC
3001	CTTTCTCATA	GCTCACGCTG	TAGGTATCTC	AGTTCGGTGT	AGGTCGTTTCG
	GAAAGAGTAT	CGAGTGCGAC	ATCCATAGAG	TCAAGCCACA	TCCAGCAAGC
		ApaLI			
		~~~~~			
3051	CTCCAAGCTG	GGCTGTGTGC	ACGAACCCCC	CGTTCAGCCC	GACCGCTGCG
	GAGGTTCGAC	CCGACACACG	TGCTTGGGGG	GCAAGTCGGG	CTGGCGACGC
3101	CCTTATCCGG	TAACTATCGT	CTTGAGTCCA	ACCCGGTAAG	ACACGACTTA
	GGAATAGGCC	ATTGATAGCA	GAACTCAGGT	TGGGCCATTC	TGTGCTGAAT
3151	TCGCCACTGG	CAGCAGCCAC	TGGTAACAGG	ATTAGCAGAG	CGAGGTATGT
	AGCGGTGACC	GTCGTCGGTG	ACCATTGTC	TAATCGTCTC	GCTCCATACA
3201	AGGCGGTGCT	ACAGAGTTCT	TGAAGTGGTG	GCCTAACTAC	GGCTACACTA
	TCCGCCACGA	TGTCTCAAGA	ACTTCACCAC	CGGATTGATG	CCGATGTGAT
3251	GAAGAACAGT	ATTTGGTATC	TGCGCTCTGC	TGTAGCCAGT	TACCTTCGGA
	CTTCTTGTC	TAAACCATAG	ACGCGAGACG	ACATCGGTCA	ATGGAAGCCT

3301	AAAAGAGTTG TTTTCTCAAC	GTAGCTCTTG CATCGAGAAC	ATCCGGCAAA TAGGCCGTTT	CAAACCACCG GTTTGGTGGC	CTGGTAGCGG GACCATCGCC
3351	TGGTTTTTTT ACCAAAAAAA	GTTTGCAAGC CAAACGTTTCG	AGCAGATTAC TCGTCTAATG	GCGCAGAAAA CGCGTCTTTT	AAAGGATCTC TTTCCTAGAG
3401	AAGAAGATCC TTCTTCTAGG	TTTGATCTTT AAACTAGAAA	TCTACGGGGT AGATGCCCCA	CTGACGCTCA GACTGCGAGT	GTGGAACGAA CACCTTGCTT
3451	AACTCACGTT TTGAGTGCAA	AAGGGATTTT TTCCCTAAAA	GGTCAGATCT CCAGTCTAGA	AGCACCAGGC TCGTGGTCCG	GTTTAAGGGC CAAATTCCCG
3501	ACCAATAACT TGGTTATTGA	GCCTTAAAAA CGGAATTTTT	AATTACGCCC TTAATGCGGG	CGCCCTGCCA GCGGGACGGT	CTCATCGCAG GAGTAGCGTC
3551	TACTGTTGTA ATGACAACAT	ATTCATTAAG TAAGTAATTC	CATTCTGCCG GTAAGACGGC	ACATGGAAGC TGTACCTTCG	CATCACAAAC GTAGTGTTTG
3601	GGCATGATGA CCGTACTACT	ACCTGAATCG TGGACTTAGC	CCAGCGGCAT GGTCGCCGTA	CAGCACCTTG GTCGTGGAAC	TCGCCTTGCG AGCGGAACGC
3651	TATAATATTT ATATTATAAA	GCCCATAGTG CGGGTATCAC	AAAACGGGGG TTTTGCCCCC	CGAAGAAGTT GCTTCTTCAA	GTCCATATTG CAGGTATAAC
3701	GCTACGTTTA CGATGCAAAT	AATCAAAACT TTAGTTTTGA	GGTGAAACTC CCACTTTGAG	ACCCAGGGAT TGGGTCCCTA	TGGCTGAGAC ACCGACTCTG
3751	GAAAAACATA CTTTTTGTAT	TTCTCAATAA AAGAGTTATT	ACCCTTTAGG TGGGAAATCC	GAAATAGGCC CTTTATCCGG	AGGTTTTTCAC TCCAAAAGTG
3801	CGTAACACGC GCATTGTGCG	CACATCTTGC GTGTAGAACG	GAATATATGT CTTATATACA	GTAGAAACTG CATCTTTGAC	CCGGAAATCG GGCCTTTAGC
3851	TCGTGGTATT AGCACCATAA	CACTCCAGAG GTGAGGTCTC	CGATGAAAAC GCTACTTTTG	GTTTCAGTTT CAAAGTCAAA	GCTCATGGAA CGAGTACCTT
3901	AACGGTGTA TTGCCACATT	CAAGGGTGAA GTTCCCACTT	CACTATCCCA GTGATAGGGT	TATCACCAGC ATAGTGGTCG	TCACCGTCTT AGTGGCAGAA
3951	TCATTGCCAT AGTAACGGTA	ACGGAACCTC TGCCTTGAGG	GGGTGAGCAT CCCCTCGTA	TCATCAGGCG AGTAGTCCGC	GGCAAGAATG CCGTTCTTAC
4001	TGAATAAAGG ACTTATTTCC	CCGGATAAAA GGCCTATTTT	CTTGTGCTTA GAACACGAAT	TTTTTCTTTA AAAAAGAAAT	CGGTCTTTAA GCCAGAAATT
4051	AAAGGCCGTA TTTCCGGCAT	ATATCCAGCT TATAGGTCGA	GAACGGTCTG CTTGCCAGAC	GTTATAGGTA CAATATCCAT	CATTGAGCAA GTAACTCGTT
4101	CTGACTGAAA GACTGACTTT	TGCCTCAAAA ACGGAGTTTT	TGTTCTTTAC ACAAGAAATG	GATGCCATTG CTACGGTAAC	GGATATATCA CCTATATAGT
4151	ACGGTGGTAT TGCCACCATA	ATCCAGTGAT TAGGTCACTA	TTTTTTCTCC AAAAAAGAGG	ATTTTAGCTT TAAATCGAA	CCTTAGCTCC GGAATCGAGG
4201	TGAAAATCTC ACTTTTAGAG	GATAACTCAA CTATTGAGTT	AAAATACGCC TTTTATGCGG	CGGTAGTGAT GCCATCACTA	CTTATTTTCAT GAATAAAGTA

4251 TATGGTGAAA GTTGGAACCT CACCCGACGT CTAATGTGAG TTAGCTCACT
ATACCACTTT CAACCTTGGA GTGGGCTGCA GATTACACTC AATCGAGTGA

4301 CATTAGGCAC CCCAGGCTTT ACACTTTATG CTTCCGGCTC GTATGTTGTG
GTAATCCGTG GGGTCCGAAA TGTGAAATAC GAAGGCCGAG CATAACAACAC

M13 Reverse primer 100.0%

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4351 TGGAATTGTG AGCGGATAAC AATTTCACAC AGGAAACAGC TATGACCATG
ACCTTAACAC TCGCCTATTG TTAAAGTGTG TCCTTTGTCG ATACTGGTAC

4401 ATTACGAATT
TAATGCTTAA

100.0% 487001

Figure 13

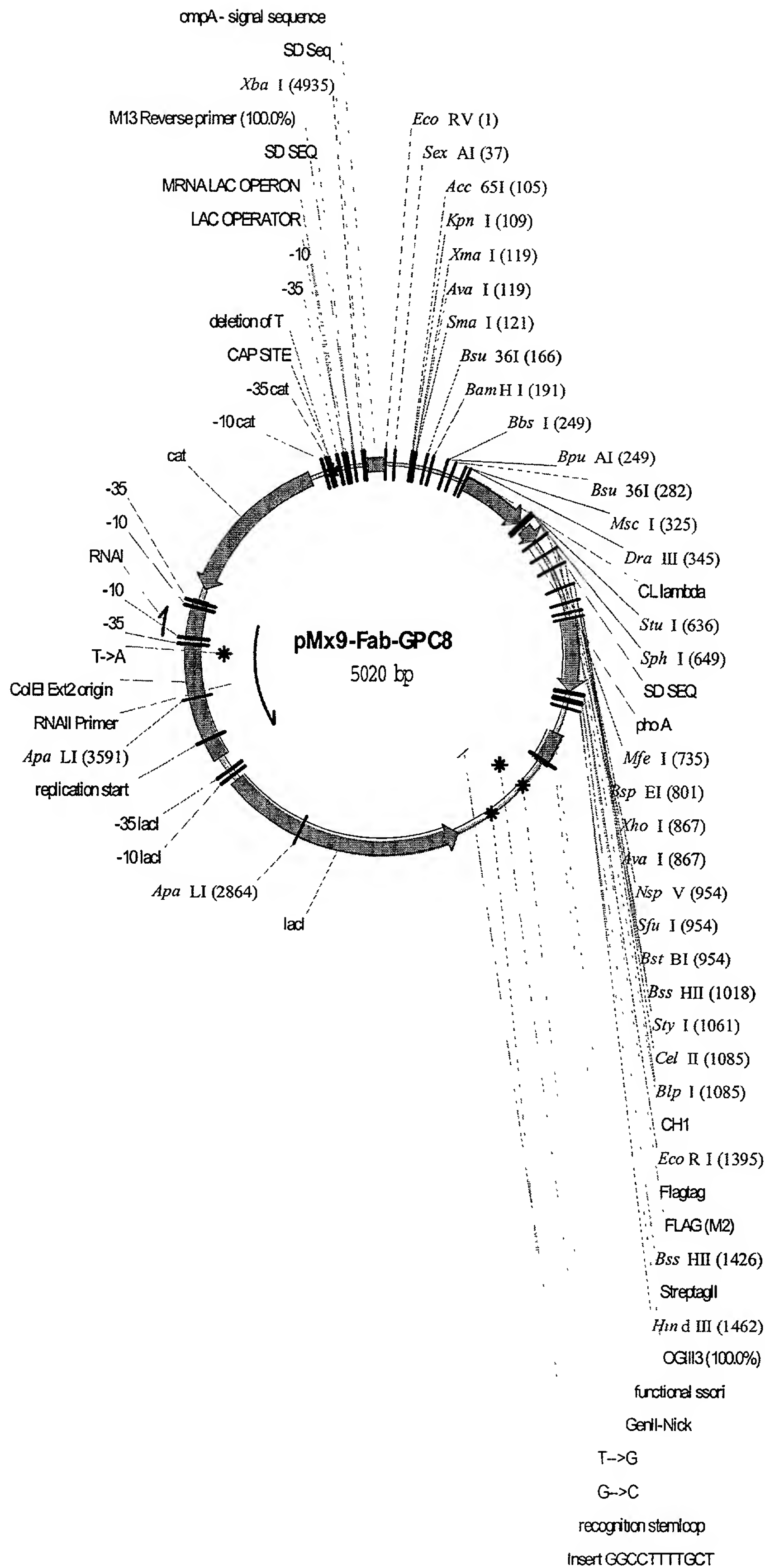


Figure 13 (cont)

	EcoRV				SexAI
	~~~				~~~~~
1	ATCGTGCTGA	CCCAGCCGCC	TTCAGTGAGT	GGCGCACCAG	GTCAGCGTGT
	TAGCACGACT	GGGTCGGCGG	AAGTCACTCA	CCGCGTGGTC	CAGTCGCACA
51	GACCATCTCG	TGTAGCGGCA	GCAGCAGCAA	CATTGGCAGC	AACTATGTGA
	CTGGTAGAGC	ACATCGCCGT	CGTCGTCGTT	GTAACCGTCG	TTGATACT
		XmaI			
		~~~~~			
	KpnI	SmaI			
	~~~~~	~~~~~			
	Acc65I	AvaI			
	~~~~~	~~~~~			
101	GCTGGTACCA	GCAGTTGCCC	GGGACGGCGC	CGAAACTGCT	GATTTATGAT
	CGACCATGGT	CGTCAACGGG	CCCTGCCGCG	GCTTTGACGA	CTAAATACTA
		Bsu36I		BamHI	
		~~~~~		~~~~~	
151	AACAACCAGC	GTCCCTCAGG	CGTGCCGGAT	CGTTTTAGCG	GATCCAAAAG
	TTGTTGGTCG	CAGGGAGTCC	GCACGGCCTA	GCAAAATCGC	CTAGGTTTTT
				BpuAI	
				~~~~~	
				BbsI	
				~~~~~	
201	CGGCACCAGC	GCGAGCCTTG	CGATTACGGG	CCTGCAAAGC	GAAGACGAAG
	GCCGTGGTCG	CGCTCGGAAC	GCTAATGCCC	GGACGTTTCG	CTTCTGCTTC
			Bsu36I		
			~~~~~		
251	CGGATTATTA	TTGCCAGAGC	TATGACATGC	CTCAGGCTGT	GTTTGGCGGC
	GCCTAATAAT	AACGGTCTCG	ATACTGTACG	GAGTCCGACA	CAAACCGCCG
		MscI		DraIII	
		~~~~~		~~~~~	
301	GGCACGAAGT	TTAACCGTTC	TTGGCCAGCC	GAAAGCCGCA	CCGAGTGTGA
	CCGTGCTTCA	AATTGGCAAG	AACCGGTCGG	CTTTCGGCGT	GGCTCACACT
351	CGCTGTTTCC	GCCGAGCAGC	GAAGAATTGC	AGGCGAACAA	AGCGACCCTG
	GCGACAAAGG	CGGCTCGTCG	CTTCTTAACG	TCCGCTTGTT	TCGCTGGGAC
401	GTGTGCCTGA	TTAGCGACTT	TTATCCGGGA	GCCGTGACAG	TGGCCTGGAA
	CACACGGACT	AATCGCTGAA	AATAGGCCCT	CGGCACTGTC	ACCGGACCTT
451	GGCAGATAGC	AGCCCCGTCA	AGGCGGGAGT	GGAGACCACC	ACACCCTCCA
	CCGTCTATCG	TCGGGGCAGT	TCCGCCCTCA	CCTCTGGTGG	TGTGGGAGGT
501	AACAAAGCAA	CAACAAGTAC	GCGGCCAGCA	GCTATCTGAG	CCTGACGCCT
	TTGTTTCGTT	GTTGTTCATG	CGCCGGTCGT	CGATAGACTC	GGACTGCGGA
551	GAGCAGTGGA	AGTCCCACAG	AAGCTACAGC	TGCCAGGTCA	CGCATGAGGG
	CTCGTCACCT	TCAGGGTGTC	TTCGATGTCT	ACGGTCCAGT	GCGTACTCCC
			StuI	SphI	



	TGCCGACGGG	ACCCGACGGA	CCAATTTCTA	ATAAAGGGCC	TTGGTCAGTG
1201	CGTGAGCTGG	AACAGCGGGG	CGCTGACCAG	CGGCGTGCAT	ACCTTTCCGG
	GCACTCGACC	TTGTCGCCCC	GCGACTGGTC	GCCGCACGTA	TGGAAAGGCC
1251	CGGTGCTGCA	AAGCAGCGGC	CTGTATAGCC	TGAGCAGCGT	TGTGACCGTG
	GCCACGACGT	TTCGTCGCCG	GACATATCGG	ACTCGTCGCA	ACACTGGCAC
1301	CCGAGCAGCA	GCTTAGGCAC	TCAGACCTAT	ATTTGCAACG	TGAACCATAA
	GGCTCGTCGT	CGAATCCGTG	AGTCTGGATA	TAAACGTTGC	ACTTGGTATT
				EcoRI	
				~~~~~	
1351	ACCGAGCAAC	ACCAAAGTGG	ATAAAAAAGT	GGAACCGAAA	AGCGAATTCG
	TGGCTCGTTG	TGGTTTCACC	TATTTTTTCA	CCTTGGCTTT	TCGCTTAAGC
			BssHII		
			~~~~~		
1401	ACTATAAAGA	TGACGATGAC	AAAGGCGCGC	CGTGGAGCCA	CCCGCAGTTT
	TGATATTTCT	ACTGCTACTG	TTTCCGCGCG	GCACCTCGGT	GGGCGTCAAA
		HindIII			
		~~~~~			
1451	GAAAAATGAT	AAGCTTGACC	TGTGAAGTGA	AAAATGGCGC	AGATTGTGCG
	CTTTTACTA	TTCGAACTGG	ACACTTCACT	TTTTACCGCG	TCTAACACGC
		OGIII3	100.0%		
		=====			
1501	ACATTTTTTT	TGTCTGCCGT	TTAATTAAAG	GGGGGGGGGG	GCCGGCCTGG
	TGTAAAAAAA	ACAGACGGCA	AATTAATTTT	CCCCCCCCCC	CGGCCGGACC
1551	GGGGGGGTGT	ACATGAAATT	GTAAACGTTA	ATATTTTGTT	AAAATTCGCG
	CCCCCCCACA	TGTACTTTAA	CATTTGCAAT	TATAAAACAA	TTTTAAGCGC
1601	TTAAATTTTT	GTTAAATCAG	CTCATTTTTT	AACCAATAGG	CCGAAATCGG
	AATTTAAAAA	CAATTTAGTC	GAGTAAAAAA	TTGGTTATCC	GGCTTTAGCC
1651	CAAAATCCCT	TATAAATCAA	AAGAATAGAC	CGAGATAGGG	TTGAGTGTTG
	GTTTTAGGGA	ATATTTAGTT	TTCTTATCTG	GCTCTATCCC	AACTCACAAAC
1701	TTCCAGTTTG	GAACAAGAGT	CCACTATTAA	AGAACGTGGA	CTCCAACGTC
	AAGGTCAAAC	CTTGTTCTCA	GGTGATAATT	TCTTGACACT	GAGGTTGCAG
1751	AAAGGGCGAA	AAACCGTCTA	TCAGGGCGAT	GGCCCACTAC	GAGAACCATC
	TTTCCCGCTT	TTTGGCAGAT	AGTCCCGCTA	CCGGGTGATG	CTCTTGGTAG
1801	ACCCTAATCA	AGTTTTTTTG	GGTCGAGGTG	CCGTAAAGCA	CTAAATCGGA
	TGGGATTAGT	TCAAAAAACC	CCAGCTCCAC	GGCATTTCGT	GATTTAGCCT
1851	ACCCTAAAGG	GAGCCCCCGA	TTTAGAGCTT	GACGGGGAAA	GCCGGCGAAC
	TGGGATTTCC	CTCGGGGGCT	AAATCTCGAA	CTGCCCCTTT	CGGCCGCTTG
1901	GTGGCGAGAA	AGGAAGGGAA	GAAAGCGAAA	GGAGCGGGCG	CTAGGGCGCT
	CACCGCTCTT	TCCTTCCCTT	CTTTCGCTTT	CCTCGCCCCG	GATCCCGCGA
1951	GGCAAGTGTA	GCGGTCACGC	TGCGCGTAAC	CACCACACCC	GCCGCGCTTA
	CCGTTACAT	CGCCAGTGCG	ACGCGCATTG	GTGGTGTTGG	CGGCGCGAAT

2001	ATGCGCCGCT	ACAGGGCGCG	TGCTAGACTA	GTGTTTAAAC	CGGACCGGGG
	TACGCGGCCGA	TGTCCCGCGC	ACGATCTGAT	CACAAATTTG	GCCTGGCCCC
2051	GGGGGCTTAA	GTGGGCTGCA	AAACAAAACG	GCCTCCTGTC	AGGAAGCCGC
	CCCCCGAATT	CACCCGACGT	TTTGTTTTGC	CGGAGGACAG	TCCTTCGGCG
2101	TTTTATCGGG	TAGCCTCACT	GCCCGCTTTC	CAGTCGGGAA	ACCTGTCGTG
	AAAATAGCCC	ATCGGAGTGA	CGGGCGAAAG	GTCAGCCCTT	TGGACAGCAC
2151	CCAGCTGCAT	CAGTGAATCG	GCCAACGCGC	GGGGAGAGGC	GGTTTGCGTA
	GGTCGACGTA	GTCACCTAGC	CGGTTGCGCG	CCCCTCTCCG	CCAAACGCAT
2201	TTGGGAGCCA	GGGTGGTTTT	TCTTTTCACC	AGTGAGACGG	GCAACAGCTG
	AACCCTCGGT	CCCACCAAAA	AGAAAAGTGG	TCACTCTGCC	CGTTGTCGAC
2251	ATTGCCCTTC	ACCGCCTGGC	CCTGAGAGAG	TTGCAGCAAG	CGGTCCACGC
	TAACGGGAAG	TGGCGGACCG	GGACTCTCTC	AACGTCGTTC	GCCAGGTGCG
2301	TGGTTTGCCC	CAGCAGGCGA	AAATCCTGTT	TGATGGTGGT	CAGCGGCGGG
	ACCAAACGGG	GTCGTCCGCT	TTTAGGACAA	ACTACCACCA	GTCGCCGCCC
2351	ATATAACATG	AGCTGTCCTC	GGTATCGTCG	TATCCCACTA	CCGAGATGTC
	TATATTGTAC	TCGACAGGAG	CCATAGCAGC	ATAGGGTGAT	GGCTCTACAG
2401	CGCACCAACG	CGCAGCCCGG	ACTCGGTAAT	GGCACGCATT	GCGCCCAGCG
	GCGTGGTTGC	GCGTCGGGCC	TGAGCCATTA	CCGTGCGTAA	CGCGGGTCGC
2451	CCATCTGATC	GTTGGCAACC	AGCATCGCAG	TGGGAACGAT	GCCCTCATTC
	GGTAGACTAG	CAACCGTTGG	TCGTAGCGTC	ACCCTTGCTA	CGGGAGTAAG
2501	AGCATTTGCA	TGGTTTGTTG	AAAACCGGAC	ATGGCACTCC	AGTCGCCTTC
	TCGTAAACGT	ACCAAACAAC	TTTTGGCCTG	TACCGTGAGG	TCAGCGGAAG
2551	CCGTTCGCT	ATCGGCTGAA	TTTGATTGCG	AGTGAGATAT	TTATGCCAGC
	GGCAAGGCGA	TAGCCGACTT	AAACTAACGC	TCACTCTATA	AATACGGTCG
2601	CAGCCAGACG	CAGACGCGCC	GAGACAGAAC	TTAATGGGCC	AGCTAACAGC
	GTCGGTCTGC	GTCTGCGCGG	CTCTGTCTTG	AATTACCCGG	TCGATTGTGC
2651	GCGATTTGCT	GGTGGCCCAA	TGCGACCAGA	TGCTCCACGC	CCAGTCGCGT
	CGCTAAACGA	CCACCGGGTT	ACGCTGGTCT	ACGAGGTGCG	GGTCAGCGCA
2701	ACCGTCCTCA	TGGGAGAAAA	TAATACTGTT	GATGGGTGTC	TGGTCAGAGA
	TGGCAGGAGT	ACCCTCTTTT	ATTATGACAA	CTACCCACAG	ACCAGTCTCT
2751	CATCAAGAAA	TAACGCCGGA	ACATTAGTGC	AGGCAGCTTC	CACAGCAATA
	GTAGTTCTTT	ATTGCGGCCT	TGTAATCACG	TCCGTGGAAG	GTGTCGTTAT
2801	GCATCCTGGT	CATCCAGCGG	ATAGTTAATA	ATCAGCCAC	TGACACGTTG
	CGTAGGACCA	GTAGGTCGCC	TATCAATTAT	TAGTCGGGTG	ACTGTGCAAC
		ApaLI			
		~~~~~			
2851	CGCGAGAAGA	TTGTGCACCG	CCGCTTTACA	GGCTTCGACG	CCGCTTCGTT
	GCGCTCTTCT	AACACGTGGC	GGCGAAATGT	CCGAAGCTGC	GGCGAAGCAA

2901	CTACCATCGA GATGGTAGCT	CACGACCACG GTGCTGGTGC	CTGGCACCCA GACCGTGGGT	GTTGATCGGC CAACTAGCCG	GCGAGATTTA CGCTCTAAAT
2951	ATCGCCGCGA TAGCGGCGCT	CAATTTGCGA GTTAAACGCT	CGGCGCGTGC GCCGCGCACG	AGGGCCAGAC TCCCGGTCTG	TGGAGGTGGC ACCTCCACCG
3001	AACGCCAATC TTGCGGTTAG	AGCAACGACT TCGTTGCTGA	GTTTGCCCCG CAAACGGGCG	CAGTTGTTGT GTCAACAACA	GCCACGCGGT CGGTGCGCCA
3051	TAGGAATGTA ATCCTTACAT	ATTCAGCTCC TAAGTCGAGG	GCCATCGCCG CGGTAGCGGC	CTTCCACTTT GAAGGTGAAA	TTCCCGCGTT AAGGGCGCAA
3101	TTCGCAGAAA AAGCGTCTTT	CGTGGCTGGC GCACCGACCG	CTGGTTCACC GACCAAGTGG	ACGCGGGAAA TGCGCCCTTT	CGGTCTGATA GCCAGACTAT
3151	AGAGACACCG TCTCTGTGGC	GCATACTCTG CGTATGAGAC	CGACATCGTA GCTGTAGCAT	TAACGTTACT ATTGCAATGA	GGTTTCACAT CCAAAGTGTA
3201	TCACCACCCT AGTGGTGGGA	GAATTGACTC CTTAACTGAG	TCTTCCGGGC AGAAGGCCCG	GCTATCATGC CGATAGTACG	CATACCGCGA GTATGGCGCT
3251	AAGGTTTTGC TTCCAAAACG	GCCATTTCGAT CGGTAAGCTA	GCTAGCCATG CGATCGGTAC	TGAGCAAAAG ACTCGTTTTT	GCCAGCAAAA CGGTGTTTTT
3301	GGCCAGGAAC CCGGTCCTTG	CGTAAAAAGG GCATTTTTTC	CCGCGTTGCT GGCGCAACGA	GGCGTTTTTC CCGCAAAAAG	CATAGGCTCC GTATCCGAGG
3351	GCCCCCTGA CGGGGGGACT	CGAGCATCAC GCTCGTAGTG	AAAAATCGAC TTTTTAGCTG	GCTCAAGTCA CGAGTTCAGT	GAGGTGGCGA CTCCACCGCT
3401	AACCCGACAG TTGGGCTGTC	GACTATAAAG CTGATATTTC	ATACCAGGCG TATGGTCCGC	TTTCCCCCTG AAAGGGGGAC	GAAGCTCCCT CTTCGAGGGA
3451	CGTGCGCTCT GCACGCGAGA	CCTGTTCCGA GGACAAGGCT	CCCTGCCGCT GGGACGGCGA	TACCGGATAC ATGGCCTATG	CTGTCCGCCT GACAGGCGGA
3501	TTCTCCCTTC AAGAGGGAAG	GGGAAGCGTG CCCTTCGCAC	GCGCTTTCTC CGCGAAAGAG	ATAGCTCACG TATCGAGTGC	CTGTAGGTAT GACATCCATA
<p style="text-align: right;">ApaLI ~~~~~</p>					
3551	CTCAGTTCGG GAGTCAAGCC	TGTAGGTCGT ACATCCAGCA	TCGCTCCAAG AGCGAGGTTC	CTGGGCTGTG GACCCGACAC	TGCACGAACC ACGTGCTTGG
3601	CCCCGTTCAG GGGGCAAGTC	CCCGACCGCT GGGCTGGCGA	GCGCCTTATC CGCGGAATAG	CGGTAAC TAT GCCATTGATA	CGTCTTGAGT GCAGAACTCA
3651	CCAACCCGGT GGTTGGGCCA	AAGACACGAC TTCTGTGCTG	TTATCGCCAC AATAGCGGTG	TGGCAGCAGC ACCGTCGTCG	CACTGGTAAC GTGACCATTG
3701	AGGATTAGCA TCCTAATCGT	GAGCGAGGTA CTCGCTCCAT	TGTAGGCGGT ACATCCGCCA	GCTACAGAGT CGATGTCTCA	TCTTGAAGTG AGA ACTTCAC
3751	GTGGCCTAAC CACCGGATTG	TACGGCTACA ATGCCGATGT	CTAGAAGAAC GATCTTCTTG	AGTATTTGGT TCATAAACCA	ATCTGCGCTC TAGACGCGAG
3801	TGCTGTAGCC	AGTTACCTTC	GGAAAAAGAG	TTGGTAGCTC	TTGATCCGGC

	ACGACATCGG	TCAATGGAAG	CCTTTTTTCTC	AACCATCGAG	AACTAGGCCG
3851	AAACAAACCA TTTGTTTGGT	CCGCTGGTAG GGCGACCATC	CGGTGGTTTT GCCACCAAAA	TTTGTTTGCA AAACAAACGT	AGCAGCAGAT TCGTCGTCTA
3901	TACGCGCAGA ATGCGCGTCT	AAAAAAGGAT TTTTTTCCTA	CTCAAGAAGA GAGTTCTTCT	TCCTTTGATC AGGAAACTAG	TTTTCTACGG AAAAGATGCC
3951	GGTCTGACGC CCAGACTGCG	TCAGTGGAAC AGTCACCTTG	GAAAACTCAC CTTTTGAGTG	GTTAAGGGAT CAATTCCTA	TTTGGTCAGA AAACCAGTCT
4001	TCTAGCACCA AGATCGTGGT	GGCGTTTAAG CCGCAAATTC	GGCACCAATA CCGTGGTTAT	ACTGCCTTAA TGACGGAATT	AAAAATTACG TTTTTAATGC
4051	CCCCGCCCTG GGGGCGGGAC	CCACTCATCG GGTGAGTAGC	CAGTACTGTT GTCATGACAA	GTAATTCATT CATTAAGTAA	AAGCATTCTG TTCGTAAGAC
4101	CCGACATGGA GGCTGTACCT	AGCCATCACA TCGGTAGTGT	AACGGCATGA TTGCCGTACT	TGAACCTGAA ACTTGGACTT	TCGCCAGCGG AGCGGTCGCC
4151	CATCAGCACC GTAGTCGTGG	TTGTCGCCTT AACAGCGGAA	GCGTATAATA CGCATATTAT	TTTGCCCATA AAACGGGTAT	GTGAAAACGG CACTTTTGCC
4201	GGGCGAAGAA CCCGCTTCTT	GTTGTCCATA CAACAGGTAT	TTGGCTACGT AACCGATGCA	TTAAATCAAA AATTTAGTTT	ACTGGTGAAA TGACCACTTT
4251	CTCACCCAGG GAGTGGGTCC	GATTGGCTGA CTAACCGACT	GACGAAAAAC CTGCTTTTTG	ATATTCTCAA TATAAGAGTT	TAAACCCTTT ATTTGGGAAA
4301	AGGGAAATAG TCCCTTTATC	GCCAGGTTTT CGGTCCAAAA	CACCGTAACA GTGGCATTGT	CGCCACATCT GCGGTGTAGA	TGCGAATATA ACGCTTATAT
4351	TGTGTAGAAA ACACATCTTT	CTGCCGGAAA GACGGCCTTT	TCGTCGTGGT AGCAGCACCA	ATTCACTCCA TAAGTGAGGT	GAGCGATGAA CTCGCTACTT
4401	AACGTTTCAG TTGCAAAGTC	TTTGCTCATG AAACGAGTAC	GAAAACGGTG CTTTTGCCAC	TAACAAGGGT ATTGTTCCCA	GAACACTATC CTTGTGATAG
4451	CCATATCACC GGTATAGTGG	AGCTCACCGT TCGAGTGGCA	CTTTCATTGC GAAAGTAACG	CATACGGAAC GTATGCCTTG	TCCGGGTGAG AGGCCCACTC
4501	CATTCATCAG GTAAGTAGTC	GCGGGCAAGA CGCCCGTTCT	ATGTGAATAA TACACTTATT	AGGCCGATA TCCGGCCTAT	AAACTTGTGC TTTGAACACG
4551	TTATTTTTTCT AATAAAAAGA	TTACGGTCTT AATGCCAGAA	TAAAAAGGCC ATTTTTCCGG	GTAATATCCA CATTATAGGT	GCTGAACGGT CGACTTGCCA
4601	CTGGTTATAG GACCAATATC	GTACATTGAG CATGTAACTC	CAACTGACTG GTTGACTGAC	AAATGCCTCA TTTACGGAGT	AAATGTTCTT TTTACAAGAA
4651	TACGATGCCA ATGCTACGGT	TTGGGATATA AACCCTATAT	TCAACGGTGG AGTTGCCACC	TATATCCAGT ATATAGGTCA	GATTTTTTTC CTAAAAAAG
4701	TCCATTTTAG AGGTAAAATC	CTTCCTTAGC GAAGGAATCG	TCCTGAAAAT AGGACTTTTA	CTCGATAACT GAGCTATTGA	CAAAAAATAC GTTTTTTTATG
4751	GCCCGGTAGT	GATCTTATTT	CATTATGGTG	AAAGTTGGAA	CCTCACCCGA

	CGGGCCATCA	CTAGAATAAA	GTAATACCAC	TTTCAACCTT	GGAGTGGGCT	
4801	CGTCTAATGT	GAGTTAGCTC	ACTCATTAGG	CACCCCAGGC	TTTACACTTT	
	GCAGATTACA	CTCAATCGAG	TGAGTAATCC	GTGGGGTCCG	AAATGTGAAA	
4851	ATGCTTCCGG	CTCGTATGTT	GTGTGGAATT	GTGAGCGGAT	AACAATTTCA	
	TACGAAGGCC	GAGCATACAA	CACACCTTAA	CACTCGCCTA	TTGTTAAAGT	
	M13 Reverse	primer	100.0%	XbaI		
	=====			~~~~~		
4901	CACAGGAAAC	AGCTATGACC	ATGATTACGA	ATTTCTAGAT	AACGAGGGCA	
	GTGTCCTTTG	TCGATACTGG	TACTAATGCT	TAAAGATCTA	TTGCTCCCGT	
4951	AAAAATGAAA	AAGACAGCTA	TCGCGATTGC	AGTGGCACTG	GCTGGTTTTCG	
	TTTTTACTTT	TTCTGTCGAT	AGCGCTAACG	TCACCGTGAC	CGACCAAAGC	
		EcoRV				
		~~~				
5001	CTACCGTAGC	GCAGGCCGAT				
	GATGGCATCG	CGTCCGGCTA				

Figure 14

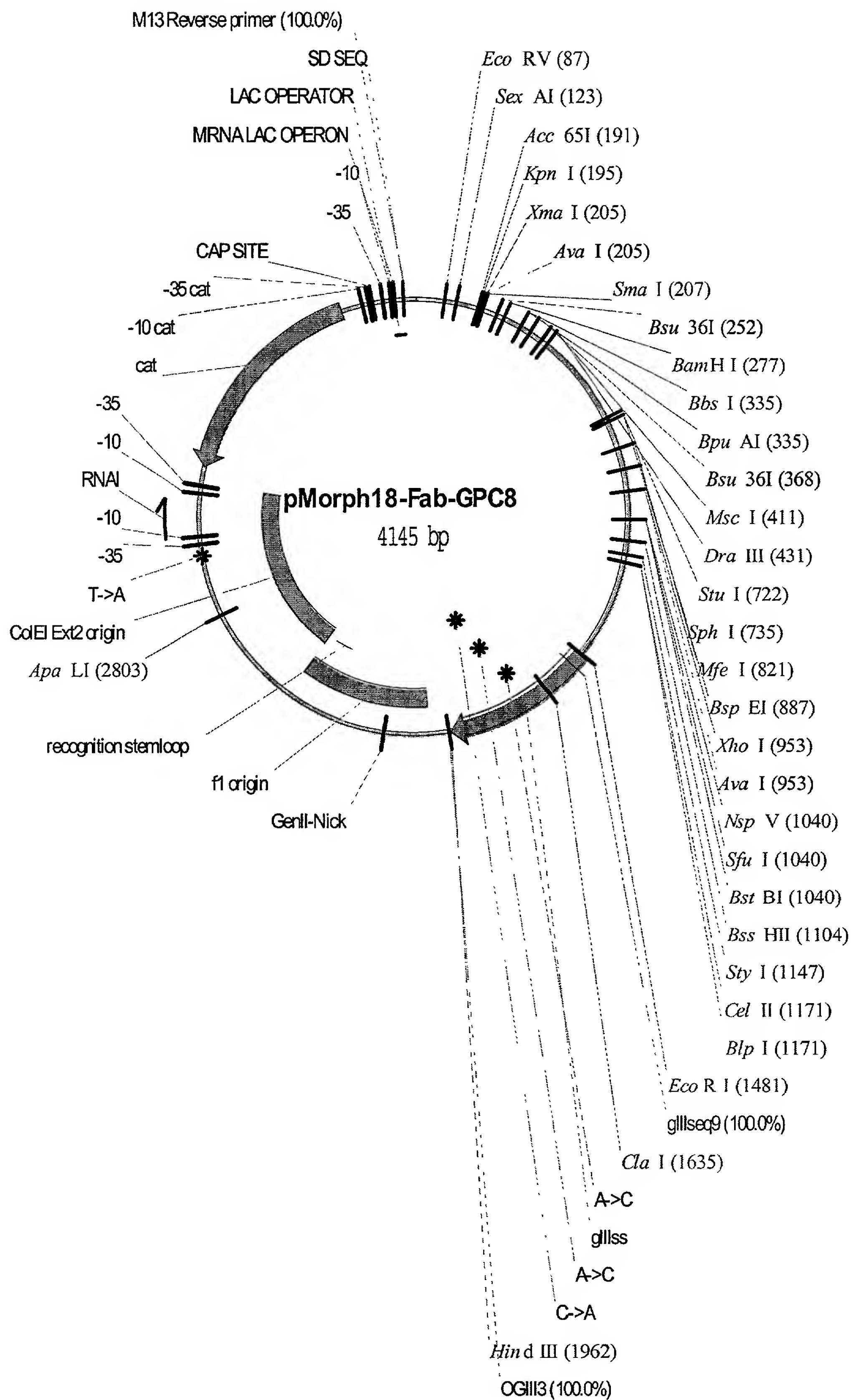


Figure 14 (cont)

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1  TCAGATAACG AGGGCAAAAA ATGAAAAAGA CAGCTATCGC GATTGCAGTG
   AGTCTATTGC TCCCGTTTTT TACTTTTTTCT GTCGATAGCG CTAACGTCAC

                                     EcoRV
                                     ~~~~~~
51  GCACTGGCTG GTTTCGCTAC CGTAGCGCAG GCCGATATCG TGCTGACCCA
   CGTGACCGAC CAAAGCGATG GCATCGCGTC CGGCTATAGC ACGACTGGGT

                                     SexAI
                                     ~~~~~~
101 GCCGCCTTCA GTGAGTGGCG CACCAGGTCA GCGTGTGACC ATCTCGTGTA
   CGGCGGAAGT CACTCACCGC GTGGTCCAGT CGCACACTGG TAGAGCACAT

                                     KpnI
                                     ~~~~~~
                                     Acc65I
                                     ~~~~~~
151 GCGGCAGCAG CAGCAACATT GGCAGCAACT ATGTGAGCTG GTACCAGCAG
   CGCCGTCGTC GTCGTTGTAA CCGTCGTTGA TACTCTCGAC CATGGTCGTC

   XmaI
   ~~~~~~
   SmaI
   ~~~~~~
   AvaI
   ~~~~~~
                                     Bsu36I
                                     ~~~~~~
201 TTGCCCCGGA CGGCGCCGAA ACTGCTGATT TATGATAACA ACCAGCGTCC
   AACGGGCCCT GCCGCGGCTT TGACGACTAA ATACTATTGT TGGTCGCAGG

   Bsu36I
   ~~~~~~
                                     BamHI
                                     ~~~~~~
251 CTCAGGCGTG CCGGATCGTT TTAGCGGATC CAAAGCGGC ACCAGCGCGA
   GAGTCCGCAC GGCCTAGCAA AATCGCCTAG GTTTTCGCCG TGGTCGCGCT

                                     BpuAI
                                     ~~~~~~
                                     BbsI
                                     ~~~~~~
301 GCCTTGCGAT TACGGGCCTG CAAAGCGAAG ACGAAGCGGA TTATTATTGC
   CGGAACGCTA ATGCCCGGAC GTTTCGCTTC TGCTTCGCCT AATAATAACG

                                     Bsu36I
                                     ~~~~~~
351 CAGAGCTATG ACATGCCTCA GGCTGTGTTT GGCGGCGGCA CGAAGTTTAA
   GTCTCGATAC TGTACGGAGT CCGACACAAA CCGCCGCCGT GCTTCAAATT

   MscI
   ~~~~~~
                                     DraIII
                                     ~~~~~~
401 CCGTTCTTGG CCAGCCGAAA GCCGCACCGA GTGTGACGCT GTTTCGCGCG
   GGCAAGAACC GGTCGGCTTT CGGCGTGGCT CAACTGCGA CAAAGGCGGC

451 AGCAGCGAAG AATTGCAGGC GAACAAAGCG ACCCTGGTGT GCCTGATTAG
   TCGTCGCTTC TTAACGTCCG CTTGTTTCGC TGGGACCACA CGGACTAATC

501 CGACTTTTAT CCGGGAGCCG TGACAGTGGC CTGGAAGGCA GATAGCAGCC

```

GCTGAAAATA GGCCCTCGGC ACTGTCACCG GACCTTCCGT CTATCGTCGG

551 CCGTCAAGGC GGGAGTGGAG ACCACCACAC CCTCCAAACA AAGCAACAAC
GGCAGTTCCG CCCTCACCTC TGGTGGTGTG GGAGGTTTGT TTCGTTGTTG

601 AAGTACGCGG CCAGCAGCTA TCTGAGCCTG ACGCCTGAGC AGTGGAAGTC
TTCATGCGCC GGTCGTCGAT AGACTCGGAC TGCGGACTCG TCACCTTCAG

651 CCACAGAAGC TACAGCTGCC AGGTCACGCA TGAGGGGAGC ACCGTGGAAA
GGTGTCTTCG ATGTCGACGG TCCAGTGCGT ACTCCCCTCG TGGCACCTTT

StuI SphI
~~~~~

701 AAACCGTTGC GCCGACTGAG GCCTGATAAG CATGCGTAGG AGAAAATAAA  
TTTGGCAACG CGGCTGACTC CGGACTATTC GTACGCATCC TCTTTTATTT

751 ATGAAACAAA GCACTATTGC ACTGGCACTC TTACCGTTGC TCTTCACCCC  
TACTTTGTTT CGTGATAACG TGACCGTGAG AATGGCAACG AGAAGTGGGG

MfeI  
~~~~~

801 TGTTACCAAA GCCCAGGTGC AATTGAAAGA AAGCGGCCCG GCCCTGGTGA
ACAATGGTTT CGGGTCCACG TTAACCTTCT TTCGCCGGGC CGGGACCACT

BspEI
~~~~~

851 AACCGACCCA AACCTGACC CTGACCTGTA CCTTTTCCGG ATTTAGCCTG  
TTGGCTGGGT TTGGGACTGG GACTGGACAT GGAAAAGGCC TAAATCGGAC

901 TCCACGTCTG GCGTTGGCGT GGGCTGGATT CGCCAGCCGC CTGGGAAAGC  
AGGTGCAGAC CGCAACCGCA CCCGACCTAA GCGGTCGGCG GACCCTTTTCG

XhoI  
~~~~~

AvaI
~~~~~

951 CCTCGAGTGG CTGGCTCTGA TTGATTGGGA TGATGATAAG TATTATAGCA  
GGAGCTCACC GACCGAGACT AACTAACCTT ACTACTATTC ATAATATCGT

BstBI  
~~~~~

SfuI
~~~~~

NspV  
~~~~~

1001 CCAGCCTGAA AACGCGTCTG ACCATTAGCA AAGATACTTC GAAAAATCAG
GGTCGGACTT TTGCGCAGAC TGGTAATCGT TTCTATGAAG CTTTTTAGTC

1051 GTGGTGCTGA CTATGACCAA CATGGACCCG GTGGATACGG CCACCTATTA
CACCACGACT GATACTGGTT GTACCTGGGC CACCTATGCC GGTGGATAAT

BssHII StyI
~~~~~

1101 TTGCGCGCGT TCTCCTCGTT ATCGTGGTGC TTTTGATTAT TGGGGCCAAG  
AACGCGCGCA AGAGGAGCAA TAGCACCACG AAAACTAATA ACCCCGGTTC

```

                                ~~~~~
StyI CelII
~ ~~~~~

1151 GCACCCTGGT GACGGTTAGC TCAGCGTCGA CCAAAGGTCC AAGCGTGTTT
 CGTGGGACCA CTGCCAATCG AGTCGCAGCT GGTTTCCAGG TTCGCACAAA

1201 CCGCTGGCTC CGAGCAGCAA AAGCACCAGC GGCGGCACGG CTGCCCTGGG
 GGCGACCGAG GCTCGTCGTT TTCGTGGTCG CCGCCGTGCC GACGGGACCC

1251 CTGCCTGGTT AAAGATTATT TCCCGGAACC AGTCACCGTG AGCTGGAACA
 GACGGACCAA TTTCTAATAA AGGGCCTTGG TCAGTGGCAC TCGACCTTGT

1301 GCGGGGCGCT GACCAGCGGC GTGCATACCT TTCCGGCGGT GCTGCAAAGC
 CGCCCCGCGA CTGGTCGCCG CACGTATGGA AAGGCCGCCA CGACGTTTCG

1351 AGCGGCCTGT ATAGCCTGAG CAGCGTTGTG ACCGTGCCGA GCAGCAGCTT
 TCGCCGGACA TATCGGACTC GTCGCAACAC TGGCACGGCT CGTCGTCGAA

1401 AGGCACTCAG ACCTATATTT GCAACGTGAA CCATAAACCG AGCAACACCA
 TCCGTGAGTC TGGATATAAA CGTTGCACTT GGTATTTGGC TCGTTGTGGT

 EcoRI
                                ~~~~~

1451 AAGTGGATAA AAAAGTGGAA CCGAAAAGCG AATTCGGGGG AGGGAGCGGG
     TTCACCTATT TTTCACCTT GGCTTTTCGC TTAAGCCCCC TCCCTCGCCC

1501 AGCGGTGATT TTGATTATGA AAAGATGGCA AACGCTAATA AGGGGGCTAT
     TCGCCACTAA AACTAATACT TTTCTACCGT TTGCGATTAT TCCCCGATA

                                gIIIseq9 100.0%
                                =====

1551 GACCGAAAAT GCCGATGAAA ACGCGCTACA GTCTGACGCT AAAGGCAAAC
     CTGGCTTTTA CGGCTACTTT TCGCGGATGT CAGACTGCGA TTTCCGTTTG

                                ClaI
                                ~~~~~

1601 TTGATTCTGT CGCTACTGAT TACGGTGCTG CTATCGATGG TTTCATTGGT
 AACTAAGACA GCGATGACTA ATGCCACGAC GATAGCTACC AAAGTAACCA

1651 GACGTTTCCG GCCTTGCTAA TGGTAATGGT GCTACTGGTG ATTTTGCTGG
 CTGCAAAGGC CGGAACGATT ACCATTACCA CGATGACCAC TAAAACGACC

1701 CTCTAATTCC CAAATGGCTC AAGTCGGTGA CCGTGATAAT TCACCTTTAA
 GAGATTAAGG GTTTACCGAG TTCAGCCACT GCCACTATTA AGTGGAATTT

1751 TGAATAATTT CCGTCAATAT TTACCTTCCC TCCCTCAATC GGTTGAATGT
 ACTTATTAAA GGCAGTTATA AATGGAAGGG AGGGAGTTAG CCAACTTACA

1801 CGCCCTTTTG TCTTTGGCGC TGGTAAACCA TATGAATTTT CTATTGATTG
 GCGGGAAAAC AGAAACCGCG ACCATTTGGT ATACTTAAAA GATAACTAAC

1851 TGACAAAATA AACTTATTCC GTGGTGTCTT TGC GTTTCTT TTATATGTTG
 ACTGTTTTAT TTGAATAAGG CACCACAGAA ACGCAAAGAA AATATACAAC

1901 CCACCTTTAT GTATGTATTT TCTACGTTTG CTAACATACT GCGTAATAAG
 GGTGGAAATA CATAcataaa AGATGCAAAC GATTGTATGA CGCATTATTC

```

HindIII  
~~~~~

1951	GAGTCTTGAT	AAGCTTGACC	TGTGAAGTGA	AAAATGGCGC	AGATTGTGCG
	CTCAGAACTA	TTCGAACTGG	ACACTTCACT	TTTTACCGCG	TCTAACACGC
		OGIII3	100.0%		
		=====			
2001	ACATTTTTTT	TGTCTGCCGT	TTAATGAAAT	TGTAAACGTT	AATATTTTGT
	TGTAAAAAAA	ACAGACGGCA	AATTACTTTA	ACATTTGCAA	TTATAAAACA
2051	TAAAATTCGC	GTAAATTTT	TGTAAATCA	GCTCATTTTT	TAACCAATAG
	ATTTTAAGCG	CAATTTAAAA	ACAATTTAGT	CGAGTAAAAA	ATTGGTTATC
2101	GCCGAAATCG	GCAAAATCCC	TTATAAATCA	AAAGAATAGA	CCGAGATAGG
	CGGCTTTAGC	CGTTTTAGGG	AATATTTAGT	TTTCTTATCT	GGCTCTATCC
2151	GTTGAGTGTT	GTTCCAGTTT	GGAACAAGAG	TCCACTATTA	AAGAACGTGG
	CAACTCACAA	CAAGGTCAAA	CCTTGTTCTC	AGGTGATAAT	TTCTTGCACC
2201	ACTCCAACGT	CAAAGGGCGA	AAAACCGTCT	ATCAGGGCGA	TGGCCCACTA
	TGAGGTTGCA	GTTTCCCGCT	TTTTGGCAGA	TAGTCCCGCT	ACCGGGTGAT
2251	CGAGAACCAT	CACCCTAATC	AAGTTTTTTG	GGGTCGAGGT	GCCGTAAAGC
	GCTCTTGGTA	GTGGGATTAG	TTCAAAAAAC	CCCAGCTCCA	CGGCATTTTCG
2301	ACTAAATCGG	AACCCTAAAG	GGAGCCCCCG	ATTTAGAGCT	TGACGGGGAA
	TGATTTAGCC	TTGGGATTTT	CCTCGGGGGC	TAAATCTCGA	ACTGCCCCTT
2351	AGCCGGCGAA	CGTGGCGAGA	AAGGAAGGGA	AGAAAGCGAA	AGGAGCGGGC
	TCGGCCGCTT	GCACCGCTCT	TTCTTCCCT	TCTTTTCGCTT	TCCTCGCCCG
2401	GCTAGGGCGC	TGGCAAGTGT	AGCGGTCACG	CTGCGCGTAA	CCACCACACC
	CGATCCCGCG	ACCGTTCACA	TCGCCAGTGC	GACGCGCATT	GGTGGTGTGG
2451	CGCCGCGCTT	AATGCGCCGC	TACAGGGCGC	GTGCTAGCCA	TGTGAGCAAA
	GCGGCGCGAA	TTACGCGGCG	ATGTCCCGCG	CACGATCGGT	ACACTCGTTT
2501	AGGCCAGCAA	AAGGCCAGGA	ACCGTAAAAA	GGCCGCGTTG	CTGGCGTTTT
	TCCGGTCGTT	TTCCGGTCCT	TGGCATTTTT	CCGGCGCAAC	GACCGCAAAA
2551	TCCATAGGCT	CCGCCCCCCT	GACGAGCATC	ACAAAAATCG	ACGCTCAAGT
	AGGTATCCGA	GGCGGGGGGA	CTGCTCGTAG	TGTTTTTAGC	TGCGAGTTCA
2601	CAGAGGTGGC	GAAACCCGAC	AGGACTATAA	AGATACCAGG	CGTTTCCCCC
	GTCTCCACCG	CTTTGGGCTG	TCCTGATATT	TCTATGGTCC	GCAAAGGGGG
2651	TGGAAGCTCC	CTCGTGCGCT	CTCCTGTTCC	GACCCTGCCG	CTTACCGGAT
	ACCTTCGAGG	GAGCACGCGA	GAGGACAAGG	CTGGGACGGC	GAATGGCCTA
2701	ACCTGTCCGC	CTTTCTCCCT	TCGGGAAGCG	TGGCGCTTTC	TCATAGCTCA
	TGGACAGGCG	GAAAGAGGGA	AGCCCTTCGC	ACCGCGAAAG	AGTATCGAGT
2751	CGCTGTAGGT	ATCTCAGTTC	GGTGTAGGTC	GTTTCGCTCCA	AGCTGGGCTG
	GCGACATCCA	TAGAGTCAAG	CCACATCCAG	CAAGCGAGGT	TCGACCCGAC

ApaLI  
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|      |                           |                          |                          |                           |                          |
|------|---------------------------|--------------------------|--------------------------|---------------------------|--------------------------|
| 2801 | TGTGCACGAA<br>ACACGTGCTT  | CCCCCGTTC<br>GGGGGGCAAG  | AGTCCGACCG<br>TCAGGCTGGC | CTGCGCCTTA<br>GACGCGGAAT  | TCCGGTAACT<br>AGGCCATTGA |
| 2851 | ATCGTCTTGA<br>TAGCAGAACT  | GTCCAACCCG<br>CAGGTTGGGC | GTAAGACACG<br>CATTCTGTGC | ACTTATCGCC<br>TGAATAGCGG  | ACTGGCAGCA<br>TGACCGTCGT |
| 2901 | GCCACTGGTA<br>CGGTGACCAT  | ACAGGATTAG<br>TGTCCTAATC | CAGAGCGAGG<br>GTCTCGCTCC | TATGTAGGCG<br>ATACATCCGC  | GTGCTACAGA<br>CACGATGTCT |
| 2951 | GTTCTTGAAG<br>CAAGAACTTC  | TGGTGGCCTA<br>ACCACCGGAT | ACTACGGCTA<br>TGATGCCGAT | CACTAGAAGA<br>GTGATCTTCT  | ACAGTATTTG<br>TGTCATAAAC |
| 3001 | GTATCTGCGC<br>CATAGACGCG  | TCTGCTGTAG<br>AGACGACATC | CCAGTTACCT<br>GGTCAATGGA | TCGGAAAAAG<br>AGCCTTTTTT  | AGTTGGTAGC<br>TCAACCATCG |
| 3051 | TCTTGATCCG<br>AGAACTAGGC  | GCAAACAAAC<br>CGTTTGTTTG | CACCGCTGGT<br>GTGGCGACCA | AGCGGTGGTT<br>TCGCCACCAA  | TTTTTGTTTG<br>AAAAACAAAC |
| 3101 | CAAGCAGCAG<br>GTTCGTCGTC  | ATTACGCGCA<br>TAATGCGCGT | GAAAAAAAGG<br>CTTTTTTTCC | ATCTCAAGAA<br>TAGAGTTCTT  | GATCCTTTGA<br>CTAGGAAACT |
| 3151 | TCTTTTCTAC<br>AGAAAAGATG  | GGGGTCTGAC<br>CCCCAGACTG | GCTCAGTGGA<br>CGAGTCACCT | ACGAAAACCTC<br>TGCTTTTGAG | ACGTTAAGGG<br>TGCAATTCCC |
| 3201 | ATTTTGGTCA<br>TAAAACCAGT  | GATCTAGCAC<br>CTAGATCGTG | CAGGCGTTTA<br>GTCCGCAAAT | AGGGCACCAA<br>TCCCGTGGTT  | TAACTGCCTT<br>ATTGACGGAA |
| 3251 | AAAAAAATTA<br>TTTTTTTAAT  | CGCCCCGCCC<br>GCGGGGCGGG | TGCCACTCAT<br>ACGGTGAGTA | CGCAGTACTG<br>GCGTCATGAC  | TTGTAATTCA<br>AACATTAAGT |
| 3301 | TTAAGCATTC<br>AATTCGTAAG  | TGCCGACATG<br>ACGGCTGTAC | GAAGCCATCA<br>CTTCGGTAGT | CAAACGGCAT<br>GTTTGCCGTA  | GATGAACCTG<br>CTACTTGGAC |
| 3351 | AATCGCCAGC<br>TTAGCGGTCG  | GGCATCAGCA<br>CCGTAGTCGT | CCTTGTCGCC<br>GGAACAGCGG | TTGCGTATAA<br>AACGCATATT  | TATTTGCCCA<br>ATAAACGGGT |
| 3401 | TAGTGAAAAC<br>ATCACTTTTG  | GGGGGCGAAG<br>CCCCCGCTTC | AAGTTGTCCA<br>TTCAACAGGT | TATTGGCTAC<br>ATAACCGATG  | GTTTAAATCA<br>CAAATTTAGT |
| 3451 | AAACTGGTGA<br>TTTGACCACT  | AACTCACCCA<br>TTGAGTGGGT | GGGATTGGCT<br>CCCTAACCGA | GAGACGAAAA<br>CTCTGCTTTT  | ACATATTCTC<br>TGTATAAGAG |
| 3501 | AATAAACCCCT<br>TTATTTGGGA | TTAGGGAAAT<br>AATCCCTTTA | AGGCCAGGTT<br>TCCGGTCCAA | TTCACCGTAA<br>AAGTGGCATT  | CACGCCACAT<br>GTGCGGTGTA |
| 3551 | CTTGCGAATA<br>GAACGCTTAT  | TATGTGTAGA<br>ATACACATCT | AACTGCCGGA<br>TTGACGGCCT | AATCGTCGTG<br>TTAGCAGCAC  | GTATTCACTC<br>CATAAGTGAG |
| +1   |                           |                          |                          |                           |                          |
| 3601 | CAGAGCGATG<br>GTCTCGCTAC  | AAAACGTTTC<br>TTTTGCAAAG | AGTTTGCTCA<br>TCAAACGAGT | TGGAAAACGG<br>ACCTTTTGCC  | TGTAACAAGG<br>ACATTGTTCC |
| 3651 | GTGAACACTA<br>CACTTGTGAT  | TCCCATATCA<br>AGGGTATAGT | CCAGCTCACC<br>GGTCGAGTGG | GTCTTTCATT<br>CAGAAAGTAA  | GCCATACGGA<br>CGGTATGCCT |
| 3701 | ACTCCGGGTG<br>TGAGGCCAC   | AGCATTCATC<br>TCGTAAGTAG | AGGCGGGCAA<br>TCCGCCCCGT | GAATGTGAAT<br>CTTACACTTA  | AAAGGCCGGA<br>TTTCCGGCCT |



Figure 15

MS-GPC-1 :

VH  
QVQLKESGPALVKPTQTLTLTCTFSGFSLSTSGVGVGWIRQPPGKALEWLALID  
WDDDKYYSTSLKTRLTISKDTSKNQVVLTMNMDPVDATATYYCARQYGHRGGFD  
HWGQGTTLVTVSS  
VL  
DIVLTQPPSVSGAPGQRVTISCSGSSSNIGSNYVSWYQQLPGTAPKLLIYDNNQ  
RPSGVPDRFSGSKSGTSASLAITGLQSEDEADYYCQSYDFNESVFGGGTKLTVL  
G

MS-GPC-6

VH  
EVQLVESGGGLVQPGGSLRLSCAASGFTFSSYAMSWVRQAPGKGLEWVSAISGS  
GGSTYYADSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCARGYGRYSPDLW  
GQGTTLVTVSS  
VL  
DIVLTQSPATLSLSPGERATLSCRASQSVSSSYLAWYQQKPGQAPRLLIYGASS  
RATGVPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYSNLPFTFGQGTKVEIK  
RT

MS-GPC-8

VH  
QVQLKESGPALVKPTQTLTLTCTFSGFSLSTSGVGVGWIRQPPGKALEWLALID  
WDDDKYYSTSLKTRLTISKDTSKNQVVLTMNMDPVDATATYYCARSPRYRGAFD  
YWGQGTTLVTVSS  
VL  
DIVLTQPPSVSGAPGQRVTISCSGSSSNIGSNYVSWYQQLPGTAPKLLIYDNNQ  
RPSGVPDRFSGSKSGTSASLAITGLQSEDEADYYCQSYDMPQAVFGGGTKLTVL  
G

MS-GPC-10

VH  
QVQLKESGPALVKPTQTLTLTCTFSGFSLSTSGVGVGWIRQPPGKALEWLALID  
WDDDKYYSTSLKTRLTISKDTSKNQVVLTMNMDPVDATATYYCARQLHYRGGFD  
LWGQGTTLVTVSS  
VL  
DIVLTQPPSVSGAPGQRVTISCSGSSSNIGSNYVSWYQQLPGTAPKLLIYDNNQ  
RPSGVPDRFSGSKSGTSASLAITGLQSEDEADYYCQSYDLTMGVFGGGTKLTVL  
G

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MS-GPC-8-6

VH

QVQLKESGPALVKPTQTLTLTCTFSGFSLSTSGVGVGWIRQPPGKALEWLALID  
WDDDKYYSTSLKTRLTISKDTSKNQVVLTMNMDPVDATYYCARSPRYRGAFD  
YWGQGTLLVTVSS

VL

DIVLTQPPSVSGAPGQRVTISCSGSSSNIGSNYVSWYQQLPGTAPKLLIYDNNQ  
RPSGVPDRFSGSKSGTSASLAITGLQSEDEADYYCQSYDYDHYVFGGGTKLTVL  
G

MS-GPC-8-10

VH

QVQLKESGPALVKPTQTLTLTCTFSGFSLSTSGVGVGWIRQPPGKALEWLALID  
WDDDKYYSTSLKTRLTISKDTSKNQVVLTMNMDPVDATYYCARSPRYRGAFD  
YWGQGTLLVTVSS

VL

DIVLTQPPSVSGAPGQRVTISCSGSSSNIGSNYVSWYQQLPGTAPKLLIYDNNQ  
RPSGVPDRFSGSKSGTSASLAITGLQSEDEADYYCQSYDLIRHVFGGGTKLTVL  
G

MS-GPC-8-17

VH

QVQLKESGPALVKPTQTLTLTCTFSGFSLSTSGVGVGWIRQPPGKALEWLALID  
WDDDKYYSTSLKTRLTISKDTSKNQVVLTMNMDPVDATYYCARSPRYRGAFD  
YWGQGTLLVTVSS

VL

DIVLTQPPSVSGAPGQRVTISCSGSSSNIGSNYVSWYQQLPGTAPKLLIYDNNQ  
RPSGVPDRFSGSKSGTSASLAITGLQSEDEADYYCQSYDFSVYVFGGGTKLTVL  
G

MS-GPC-8-27

VH

QVQLKESGPALVKPTQTLTLTCTFSGFSLSTSGVGVGWIRQPPGKALEWLALID  
WDDDKYYSTSLKTRLTISKDTSKNQVVLTMNMDPVDATYYCARSPRYRGAFD  
YWGQGTLLVTVSS

VL

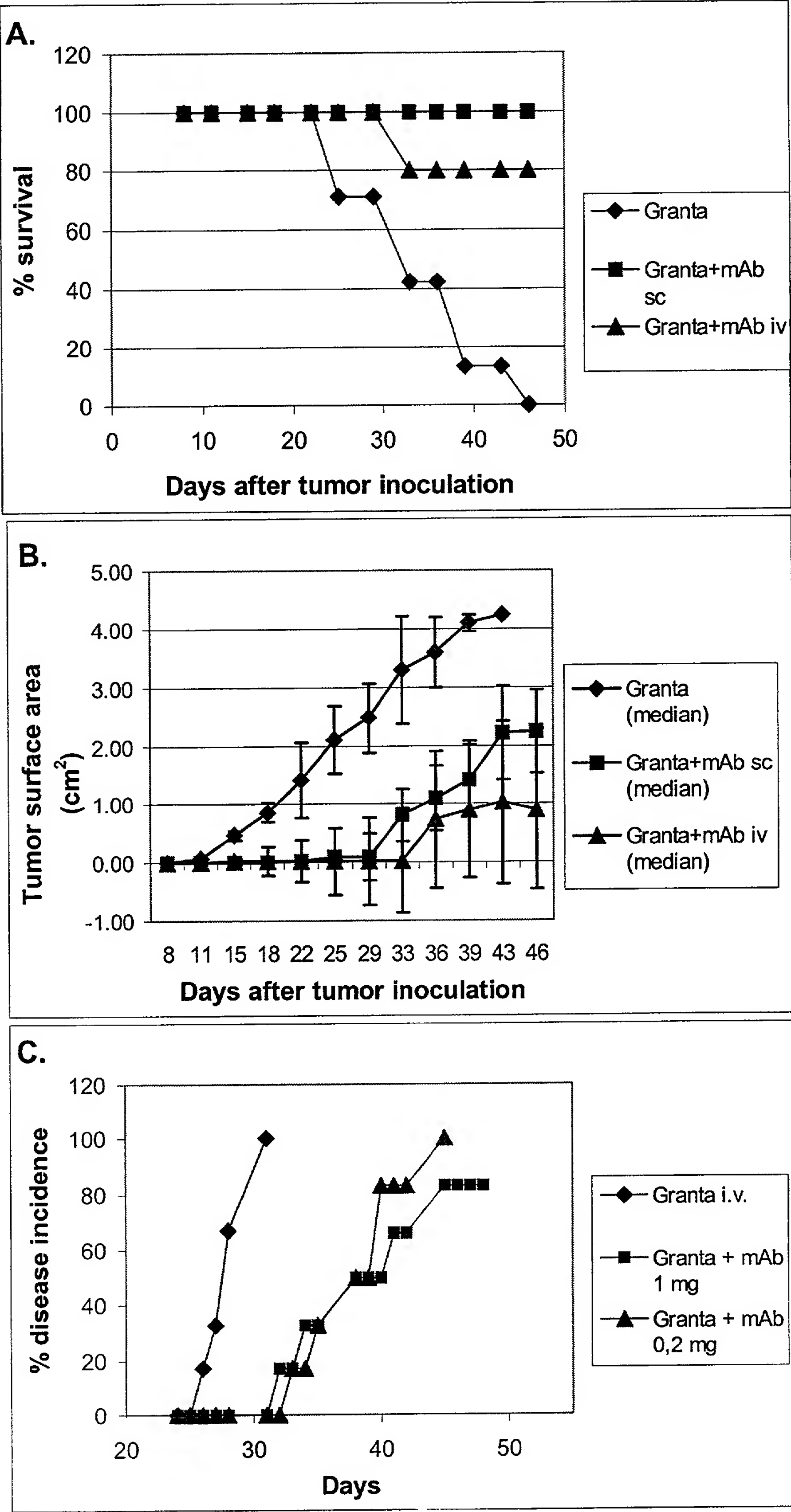
DIVLTQPPSVSGAPGQRVTISCSGSSSNIGSNYVSWYQQLPGTAPKLLIYDNNQ  
RPSGVPDRFSGSKSGTSASLAITGLQSEDEADYYCQSYDMNVHVFGGGTKLTVL  
G

MS-GPC-8-6-13

VH



Figure 16



## Figure 16 (Cont.)

**D**



**Mouse #2, untreated, day 32; tumor area 4.76 cm<sup>2</sup>**

**E**



**Mouse #13, mAb i.v., day 32; tumor area 0.01 cm<sup>2</sup>**